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Type material of *Phaonia* (Diptera: Muscidae) in the Zoological Institute RAS, St-Petersburg, Russia

Типовой материал *Phaonia* (Diptera: Muscidae) Зоологического института РАН, Санкт-Петербург, Россия

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КЛЮЧЕВЫЕ СЛОВА: Diptera, Muscidae, *Phaonia*, Зоологический институт РАН, ЗИН, типовой материал.

ABSTRACT. The type material of genus *Phaonia* in Zoological Institute RAS, St-Petersburg, Russia was revised and discussed. The data on other type specimens of the considered species of *Phaonia* were complied. This review is illustrated by photos of 44 types specimens of *Phaonia* kept in ZIN.

РЕЗЮМЕ. Изучены типовые экземпляры рода *Phaonia*, хранящиеся в Зоологическом институте РАН (Санкт-Петербург, Россия). Суммированы данные по местонахождению остальных типовых экземпляров рассмотренных видов *Phaonia*. Сделаны фотографии 44 типов *Phaonia*, хранящихся в Зоологическом институте РАН.

Introduction

In Zoological Institute, St-Petersburg, Russia (ZIN) rather rich type material of Muscidae is deposited. This material was properly examined by W. Hennig and subsequently published in his revision of the Palaearctice Muscidae. Since that, few more Muscidae were described from ZIN's material with one exception – the genus *Phaonia* Robineau-Desvoidy, 1830. In the period from 1980 till 1994 more than 30 taxa of *Phaonia* were described from the type material entirely or partly stored in ZIN. All relevant papers were published in Russian, most of these are not available on-line, the data were never reviewed.

We reexamined the type material of *Phaonia* in ZIN (totally 56 taxa) and found most of the type specimens to be in a good a condition. We also discuss where the rest parts of the type series are deposited or should be deposited according to the original descriptions and other literature data.

Our other task was finding of type localities which are given usually in Cyrillic alphabet and are from various remote corners of Russia, Soviet Central Asia, Mongolia and Central China. A lot of toponyms mentioned were renamed either in Soviet or post-Soviet periods. Especially difficult was to find localities for specimens collected by expeditions of the Russian Imperial Geographical Society in Central Asia under the leadership of P. Kozlov or V. Roborovsky. These localities were established according to the field reports published by Kozlov [1947] and Roborovsky [1949]. We did our best to bring all type localities to the level of geographical coordinates and present administrative divisions. In the lists of the type materials each label is first cited verbatim in the original language (usually Russian) and then followed by its English explanation, where the toponyms are mentioned in their modern form.

The paper is illustrated by 44 images of ZIN's types of *Phaonia*.

Material and methods

Entomological collections are abbreviated as follows:

BMNH — Natural History Museum, London, UK.

MNM — Magyar Nemzeti Muzeum, Budapest, Hungary.

NRS — Naturhistoriska Riksmuseet, Stockholm, Sweden.

SDEI — Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany.

ZIN — Zoological Institute RAS, St-Petersburg, Russia.

ZMHU — Museum für Naturkunde, Humboldt—Universität zu Berlin, Germany.

ZMUH — Zoological Museum, Finnish Museum of Natural History, Helsinki, Finland.

ZMUM — Zoological Museum of Moscow University, Russia.

Localities are given in the following form: country, region (for large countries), geographical coordinates, the later are given in the Decimal Degrees format.

Type specimens of *Phaonia* in ZIN's collection

Phaonia adriani Zinovjev, 1994: 82 (*Phaonia*) Fig. 1.

MATERIAL. **ZIN:** Holotype, ♂: Gergeti scree & river 2950–3200 m USSR, Georgia Caucasus, Kazbegi, 11.VII.1983 A.C. Pont (= GEORGIA, H"42.66°N 44.58°E), Holotypus *Phaonia adriani* ♂ Zinovjev, 1994.

Other type material. BMNH: paratype, 1♀, GEORGIA, the same label as the holotype, [Zinovjev, 1994].

Phaonia alatavica Zinovjev, 1983: 183 (*Phaonia*) Fig. 21.

MATERIAL. **ZIN:** Holotype, ♂: Алма-Ат. зап., 1650м устье Ср. Талгара Каспарян 6.VII.979 (= KAZAKHSTAN, *Almaty* reg., Alma-Atinsky Nat. Res, mouth Middle Talgar R., 43.225°N 77.290°E, 1650 m asl, D. Kasparian, 6.07.1979), Holotypus Phaonia alatavica ♂ Zinovjev, 1982.

Paratypes 3♂♂, 3♀♀: KAZAKHSTAN, *Almaty* reg.: the same label as the holotype, date 8.07.1979, 2♂♂, 2♀♀; Алма-Ат. зап., 1800м Прав. Талгар, ельн. Каспарян (= Right Talgar R., fir forest, 43.210°N 77.283°E, 1800 m asl, D. Kasparian), 9.07.1979, 1♂, 1♀.

Phaonia algida Zinovjev, 1983: 187 (*Phaonia*) Fig. 2.

MATERIAL. **ZIN:** Holotype, ♂: Аксу-Дж.зап., 1600–1800м, ущ. Джабаглы Каспарян 3.VII.979 (= KAZAKHSTAN, *S Kazakhstan* reg., Aksu-Zhabagly Nat. Res., Zhabagly canyon, 42.4°N 70.5°E, 1600–1800 m asl, D. Kasparyan, 3.07.1979), Holotypus Phaonia algida ♂ Zinovjev, 1982.

Phaonia alticiella Zinovjev, 1990: 491 (*Phaonia*)

MATERIAL. **ZIN:** paratypes, 2♀♀: MONGOLIA: Central aimak, 11 km OSO von Somon Bajanzogt 950 m Exp. Dr. Z. Kaszab (= *Tov* prov., 11 km SEE of Somon Bayantsogt, 48.05°N 105.98°E), 26.07.1968, 1♀; Zavchan aimak am pass Chaldzan Sogotyn davaa, 2300 m Exp. Dr. Z. Kaszab (= *Zavkhan* prov., 48.6°N 97.2°E), 14.07.1968, 1♀.

Other type material. MNM [Zinovjev, 1990]. Holotype, ♀: Uvs aimak, 2 km O of Pass Ulaan davaa zw. See Orog nuur und Ulangom, 1950 m, Expedition of Dr. Kaszab 6.VII.1968 (= MONGOLIA, *Uvs* prov., 2 km E of Pass Ulaan davaa between Orog nuur Lake and Ulangom, 50.177°N 91.485°E, 6.07.1968).

Paratype 1♀, MONGOLIA, *Zavkhan* prov., Zavchan aimak Choit chunch, 26 km ONO von See Telmen nuur, 2150 m Exp. Dr. Z. Kaszab (= 26 km NEE of Telmen nuur Lake, 48.7°N 97.8°E), 13–15.07.1968.

Phaonia amurensis Hennig, 1963: 799 (*Phaonia*) Fig. 3.

MATERIAL. **ZIN:** Holotype, ♂: Климоуцы Амур. обл. 40 км W Свободного Борисова 21. V. 959 дубово-лиственничн. лес на фоне черн. Березы (= RUSSIA, *Amur* reg., 40 km W of Svobodny, Klimoutsy, 51.46°N 127.59°E, oak-larch forest with birch, K. Borisova, 27.07.1958), Phaonia amurensis Hennig n.sp. Holotypus.

Paratype, 1♂, RUSSIA, the same label as the holotype.

Phaonia arida Zinovjev, 1983: 186 (*Phaonia)* Fig. 4.

MATERIAL. **ZIN:** Holotype, ♂: Монголия, Баян Хонгорск аймак, ур. Дзун-Мод 70 км Ю Шинэ-Джинст Зайцев 10–11.VIII.969 (= MONGOLIA, *Bayankhongor* prov., 70 km S of Shinejinst, Zuun Mod (= 100 trees, mongolian), 43.97°N 99.23°E, 1300 m asl, V. Zaitsev, 10–11.08.1969), Holotypus Phaonia arida ♂ Zinovjev, 1982.

Paratypes, 2♂♂, 1♀: IRAN, *Sistan and Baluchestan* reg., Хазыкъ верш Ку Туфтан Саргадъ Кирман (=Sarhad=Serhed plateau, Taftan Volcano, 28.6°N 61.1°E, N. Zarudny expedition to Persia), 21–26.08.1898, 1♂;

KAZAKHSTAN, *S Kazakhstan* reg., Аксу-Джебаглинск. Зап. Южн. Казахст. обл. В. Шевченко 14–17.VI.953 (= Aksu-Zhabagly Nat. Res., 42.4°N 70.6°E, V. Shevchenko). 14–17.06.1953, 1♂;

TAJIKISTAN, *Gorno-Badakhshan* reg., Ванч, Дарваз Штакельберг (= Darvoz dist., Vanj vill., on Vanj River, 38.37°N 71.46°E, 1750 m asl, A. Stackelberg), 30.07.1943, 1♀.

Phaonia asiatica Hennig, 1963: 801 (*Phaonia)* Fig. 5.

MATERIAL. **ZIN:** Holotype, ♂: Кондара, 1100 м д. Варзоза, Тадж. Гуссаковский 15.IX.945 (= TAJIKISTAN, *Sughd* reg., Varzob village, 38.79°N 68.82°E, 1100 m asl, V. Gussakovsky, 15.09.1945), Phaonia asiatica Hennig n.sp. Holotypus.

Phaonia asierrans Zinovjev, 1981: 623 (*Phaonia*) Fig. 6.

MATERIAL. **ZIN:** Holotype, ♂: Барабаш пойма Хасанский р-н Каспарян 2 VIII 978 (= RUSSIA, Primorsky reg., Khasansky distr., Barabashevka River flood plain, 43.19°N 131.50°E, D. Kasparyan, 2.08.1978), Holotypus ♂ Phaonia asierrans Zinovjev, 1981.

Paratypes, 2♂♂, 1♀: CHINA, *Sichuan* prov., Сычуань, Тацзынлу Потанин (Tachienlu=Dartsedo=Kangding, 30.05°N 101.96°E, G. Potanin), 6.06.1893, 1♂;

RUSSIA: *Primorsky* reg., Владивосток Седанка Зиновьев (= Vladivostok, Sedanka, 43.2єN 132.0єE, A. Zinovjev), 19.07.1979, 1♀; *Sakhalin* reg., о. Кунашир, окр. Южно-Курильска А. Зиновьев (= Kunashir Isl., Yuzhno-Kurilsk env., 44.03°N 145.86°E, A. Zinovjev), 3.07.1979, 1♂.

Phaonia atrochaeta Zinovjev, 1980b: 909 (*Phaonia*) Fig. 7.

MATERIAL. **ZIN:** Holotype, ♀: Владивосток, Седанка А. Зиновьев 1.VI.1979 (= RUSSIA, *Primorsky* reg., Vladivostok, Sedanka, 43.2°N 132.0°E, A. Zinovjev, 1.06.1979), Holotypus ♂ Phaonia atrochaeta Zinovjev, 1980.

Phaonia chalchica Zinovjev, 1980a: 439 (*Phaonia*) Fig. 8.

ZIN: Holotype, ♂: Холт, сев. Гоби Монголия Козлов 28.III–12.V.926 (= MONGOLIA, *Dundgovi* prov., N Gobi, Khuld, 45.22°N 105.55°E, H"1300 m asl, P. Kozlov), 28.03–12.05.1926.

Paratypes, 11♂♂, 7♀♀: MONGOLIA: the same label as the holotype: 28.03–12.05.1926 5♂♂; 13-17.05.1926, 6♂♂, 1♀; Г.-Алт. айм, Хасагт-Хайрхан 15 км Ю, Джаргалана, лов. Малеза, Зайцев Нарчук (= *Govi-Altai* prov., Hasagt Hayrhan Hills 15 km S of Jargalan, 46.85°N 95.90°E, H"2000 m asl, V. Zaitsev, E. Narchuk) 14.08.1970 5♀♀; Центральный, аймак, Мунгэн Морьт, Зайцев (= *Tov* prov., Mongonmorit, 48.2°N 108.5°E, 1400 m asl, V. Zaitsev), 6–7.07.1967, 1♀.

REMARKS. One male with the same label as the holotype was not found.

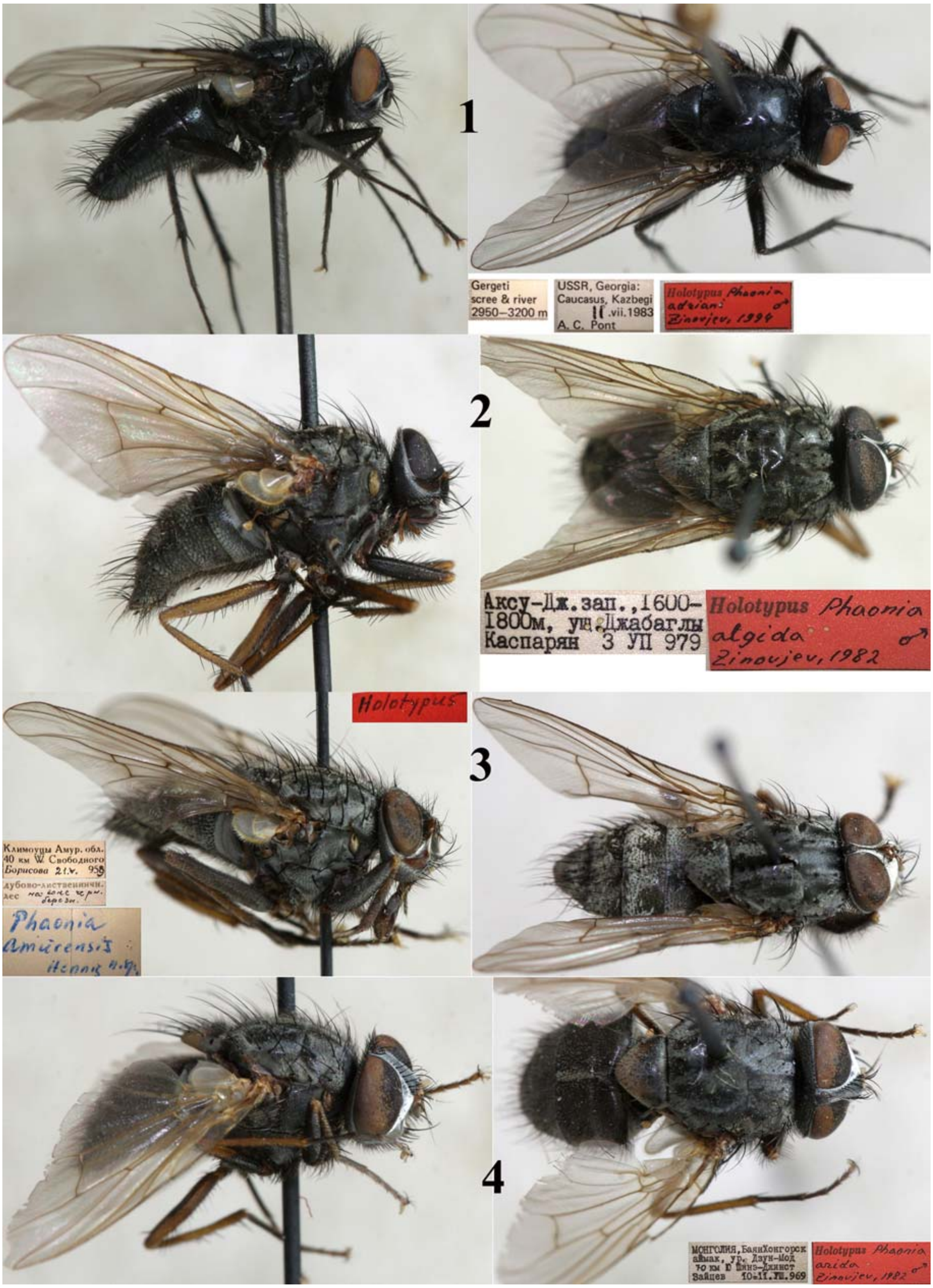
Phaonia changaica Zinovjev, 1990: 500 (*Phaonia*)

MATERIAL. **ZIN:** paratypes, 2♂♂: MONGOLIA: Bulgan Namnan ul Gebirge aimak, 3 km NW von Somon Chutag, 1150 m Exp. Dr. Z. Kaszab (= *Bulgan* prov., 3 km NW of Khutag-Ondor sum, 49.42°N 102.66°E, 1000 m asl), 11.06–21.07.1967, 1♂;

CHINA, Gansu prov., Горы Ганьсу, VIII 1871, 77460 Пржевальский (= Gansu Mts., H" 37°N 103°E, Aug 1871, N. Przhevalsky), 1♂.

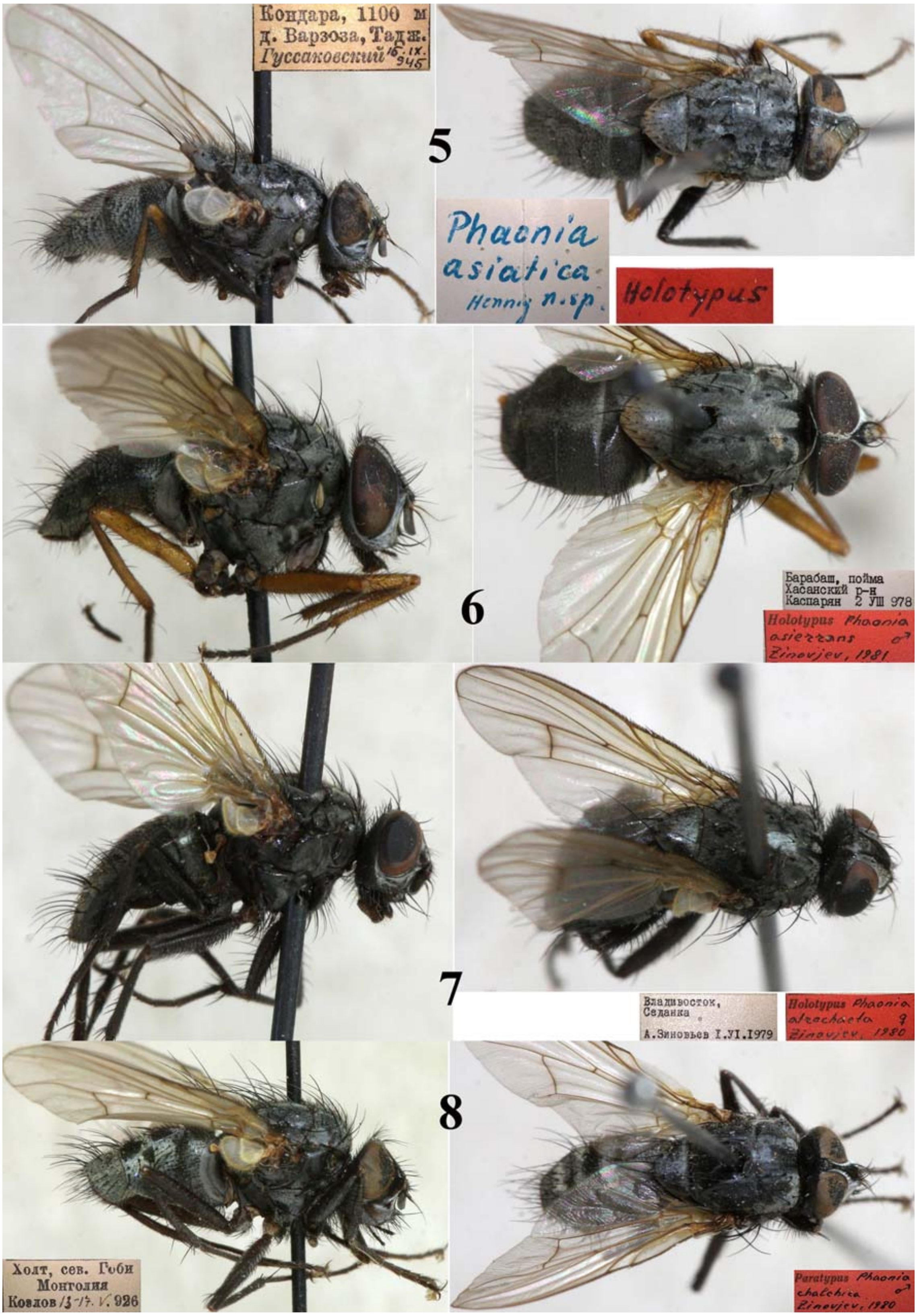
Other type material. MNM [Zinovjev, 1990]. Holotype, ♂, MONGOLIA, (*Tov* prov.) Central aimak 58 km NW of Ulan-Baator (= 48.2°N 106.3°E), 1200 m asl, Exp. Dr .Z. Kaszab, 9.07.1964.

Paratypes, 4♂♂, 1♀, MONGOLIA: (*Tov* prov.) Central aimak., 11 km SEE of Bayantsogt,(H" 48.04°N 106.09°E), 1600m asl, Exp.



Figs 1–4. *Phaonia* spp., ♂ holotypes: 1 — *P. adriani* Zinovjev, 1994; 2 — *P. algida* Zinovjev, 1983; 3 — *P. amurensis* Hennig, 1963; 4 — *P. arida* Zinovjev, 1983.

Рис. 1–4. *Phaonia* spp., ♂ голотипы: 1 — *P. adriani* Zinovjev, 1994; 2 — *P. algida* Zinovjev, 1983; 3 — *P. amurensis* Hennig, 1963; 4 — *P. arida* Zinovjev, 1983.



Figs 5–8. *Phaonia* spp. ♂ holotypes: 5 — *P. asiatica* Hennig, 1963; 6 — *P. asierrans* Zinovjev, 1981; 7 — *P. atrochaeta* Zinovjev, 1980; 8 — *P. chalchica* Zinovjev, 1980.

Рис. 5–8. *Phaonia* spp., ♂ голотипы: 5 — *P. asiatica* Hennig, 1963; 6 — *P. asierrans* Zinovjev, 1981; 7 — *P. atrochaeta* Zinovjev, 1980; 8 — *P. chalchica* Zinovjev, 1980.

Dr .Z. Kaszab, 13.06–26.07.1968, 1♂; *Arkhangai* prov., Khangai mountains, 9 km NE of Pass Egijn davaa (H"48°N 100°E), 2500 m asl, Exp. Dr .Z. Kaszab, 19.07.1966, 1♂; *Bulgan* prov., 23 km NW of Khutag-Ondor sum (49.52°N 102.44°E), 1150 m asl, Exp. Dr. Z. Kaszab, 17.06–21.07.1968, 2♂♂, 1♀.

Phaonia cilitibia Emden, 1965: 261 (*Phaonia*)

MATERIAL. **ZIN:** Paratype, 1♂: (MYANMAR, *Kachin* st.), N. E. Burma Kambaiti (25.53°N 98.14°E), 7000 ft. = 2130 m asl, R. Malaise, 11.05.1934, Phaonia cilitibia sp.n. paratype Van Emden det., 1953; Pres by Com.Inst.Ent., B.M. 1957-401.

Other type material. NRS: Holotype ♂, the same locality as the above mentioned paratype, 7.05.1934.

NRS, BMNH and ZMUH: paratypes 30♂♂, 3♀♀: the same locality, 6.04–7.06.1934 [Emden, 1965].

Phaonia dahurica Zinovjev, 1990: 487 (*Phaonia*)

MATERIAL. **ZIN:** type material was not found.

Other type material. MNM. Paratype, 1♂, MONGOLIA, *Khovd* prov., Bulgan aimak, 7 km NW von somon Chanzargalant, 1350 m, (most probably «Bulgan aimak» is an error, if so the locality is: 7 km NW of Jargalant=Khovd, H~ 48.03°N 91.60°E), 16.06.1968, Z. Kaszab. According to Zinovjev [1990], it should be in MNM.

Phaonia decussata Stein, 1907: 321 (*Aricia*) Fig. 9.

MATERIAL. **ZIN:** Lectotype, ♂: истокъ Хуан хэ, с.-в. Тибетъ Козловъ 14.VI.900 (= CHINA, *Qinghai* prov., NE Tibet, source of Huang He River, Ngoring Lake or Gyaring Lake, 34.8°N 97.5°E, 4270 m asl, P. Kozlov, 14.06.1900); Aricia decussata II.3 Stein (Stein's handwriting); Phaonia decussata Stein (Hennig's handwriting); Lectotypus Phaonia decussata Stein design. Zinovjev 1982 [Zinovjev, 1983].

Paralectotypes 2♀♀, CHINA, the same label as the lectotype.

Other type material. ZMHU, paralectotype, ♀, the same label as the lectotype [Pont, Werner, 2006].

Phaonia gergetica Zinovjev, 1994: 83 (*Phaonia*) Fig. 10.

MATERIAL. **ZIN:** Holotype, ♂: USSR, Georgia, Cuacasus, Kazbegi, Gergeti scree, 2950–3000 m, 14.VII.1983, A. C. Pont (= GEORGIA, Kazbegi, H"42.66°N 44.58°°E), Holotypus Phaonia gergetica Zinovjev, 1994.

Paratypes, 1♂, 2♀♀: GEORGIA, the same label as the holotype.

Other type material. BMNH [Zinovjev, 1994]. Paratypes 4♂♂, 4♀♀: the same label as the holotype, dates 11–14.07.1983, 2950–3200 m asl, 4♂♂, 3♀♀; the same label as the holotype, 10.07.1983, 2150 m asl, 1♀.

Phaonia gobertii sternalis Zinovjev, 1987: 440 (*Phaonia*) Fig. 11.

MATERIAL. **ZIN:** Holotype, ♂: Владивосток Седанка А. Зиновьев 1.VI.1979 (= RUSSIA, *Primorsky* reg., Vladivostok, Sedanka, 43.2°N 132.0°E, 1.06.1979, A. Zinovjev), Holotypus Phaonia gobertii sternalis ♂ Zinovjev ssp.n. 1985. Paratypes, 2♂♂, RUSSIA, *Primorsky* reg.: Супутинский, Черемуха Н. Кр. (= Suputinsky=Ussuriysky Nat. Res., 43.65°N 132.35°E, from bird cherry tree, *Prunus padus*, N. Krivosheina), 18.04.1969, 1♂; Камень-Рыболов, Приморье, на заборе, А. Зиновьев (= Kamen-Rybolov, 44.73°N 132.04°E, on fence, A. Zinovjev), 5.09.1978, 1♂.

Phaonia grunini Zinovjev, 1980a: 440 (*Phaonia*) Fig. 12.

MATERIAL. **ZIN:** Holotype, ♂: р. Бугузун предгорье ю.-в. Алтай Грунин 29.VII.964 Holotypus ♂ Phaonia grunini Zinovjev 1980 (= RUSSIA, *Altai Republic*. reg.,Buguzun R., H"50.0°N 89.1°E, H"1950 m asl, K. Grunin, 29.07.1964).

Paratypes 1♂, 1♀: RUSSIA, the same label as the holotype 1♂; MONGOLIA, Южно-Гобийск айм. хр. Гурван-Сайхан 30 км ВСВ Байан-Далай Зайцев (= *Omnogovi* prov., 30 km NEE of Bayandalai, 43.53°N 103.81°E, H"2000 m asl, V. Zaitsev), 27–28.08.1969, 1♀.

Phaonia halophila Zinovjev, 1990: 479 (*Phaonia*) Fig. 13.

MATERIAL. **ZIN:** Holotype, ♂: Монголия, Кобдоский аймак, ур. Елхон 20 км ЮВ Алтая на Бодончи Нарчук 27. VII. 970 (= MONGOLIA, *Khovd* prov., 20 km S of (Mongolian) Altai Mts, on Bodonchiyn River, 45.88N, 92.43°E, E. Narchuk, 27.07.1970), Holotypus Phaonia halophila ♂ Zinojev, 1988.

Paratypes 17♂♂, 12♀♀. MONGOLIA: the same label as the holotype, date 22–27.07.1970, collector V. Zaitsev or E. Narchuk, 6♂♂, 10♀♀; Гоби-Алт,, аймак, родн. Ушийн-Булак 30 км СЗ Бэгэра, Нарчук (= *Govi-Altai* prov., 30 km NW of Biger, 45.88°N 96.88°E, 1350 m asl, E. Narchuk), 13.07.1970, 3♂♂, 1♀; Гоби-Алт., аймак, родн. Хайчи-Була, 60 км ЮВ Бугата, Зайцев (= *Govi-Altai* prov., 60 km SE of Bugat, 45.2°N 94.8°E, V. Zaitsev), 19.07.1970, 2♂♂; ЮжноГобийск., аймак, оз. Баян-Тухум, 30км ЗСЗ Баян Далая, Зайцев (= *Omnogovi* prov., 30 km NWW of Bayandalai, Bayan-Tukhum L., 43.57°N 103.19°E, V. Zaitsev), 31.07.1967, 2♂♂; Choved aimak, Jamatin Dolon cca 40 km, N von Somon Manchan am, SW Eske des char us nuur, 1200 m, Exp. Dr .Z. Kaszab, (= *Khovd* prov., 40 km N of Somon Mankhan=Tagrag, Khar us Nuur Lake shore, 47.75°N 92.05°E, 1200 m asl), 11–12.07.1966, 4♂♂, 1♀.

Other type material. MNM, paratypes, 26♂♂, 7♀♀. MONGOLIA (all collected by Exp. Dr .Z. Kaszab): *Khovd* prov., 40 km N of Somon Mankhan=Tagrag, Char=Khar us Nuur Lake shore, 47.75°N 92.05°E, 1200 m asl), 11–12.07.1966, 19♂♂, 3♀♀; *Khovd* prov., Chovd aimak, 3 km N von Somon Uench im Tal Uench gol, 1450 m, (46.06°N 92.03°E), 2–3.07.1966, 2♂♂, 3♀♀; *Uvs* prov., am See Bag nuur, 6 km NO von Somon Zuungobi (Bag Nuur Lake, 6 km NE of Zuungovi, 49.93°N 93.85°E), 1000 m, 25.06.1968, 1♂; *Tov* prov., Central aimak, Tosgoni ovoo, 5-10 km N von Ulan-Baator, 1500–1700 m, (48.02°N 106.95°E), 19–24.07.1967, 1♂; *Govi-Altai* prov., zwischen Beger nuur und Somon Beger=Biger (45.71°N 97.18°E), 1400 m, 25-26.06.1966, 1♂; *Omnogovi* prov., Tachilga ul, zw. Zogt-Ovoo=Tsogt Ovoo und Dalanzadgad (44°N 105°E), 1550 m, 12.06.1967, 1♂; *Dornogovi* prov., Ostgobi aimak, 40 km NW von Chara-Eireg (=Delgerekh? 45.8°N 111.2°E), 1150 m, 30.06.1967, 1♂; *Bayankhongor* prov., Oase Echin gol, 90 km NO von Grenzposten Caganbulag (= 90 km NE of Caganbulag Checkpoint, H"43.5°N 98.5°E), 950 m, 27–28.06.1967, 1♀.

ZMUM: paratype, 1♂, MONGOLIA, the same label as the holotype, but with V. Zaitsev as a collector.

Phaonia hirtirostris Stein, 1907: 318 (*Aricia*) Fig. 14.

MATERIAL. **ZIN:** Lectotype, ♂: в. б. оз. Орин-норъ бас. Хуан хэ 13900' Козлов. кv-нvi 01 (= CHINA, *Qinghai* prov., near Ngoring Lake, 34.8°N 97.5°E, 4270 m asl, P. Kozlov, late May – early June.1901) Lectotype ♂ Aricia hirtirostris Stein Des A. C. Pont 2000.

Paralectotypes 8♂♂: CHINA, the same label as the holotype.

Other type material. ZMHU. Paralectotypes, 4♂♂, CHINA, the same label as the lectotype [Pont, Werner, 2006].

Phaonia impura Zinovjev, 1987: 439 (*Phaonia*) Fig. 15.

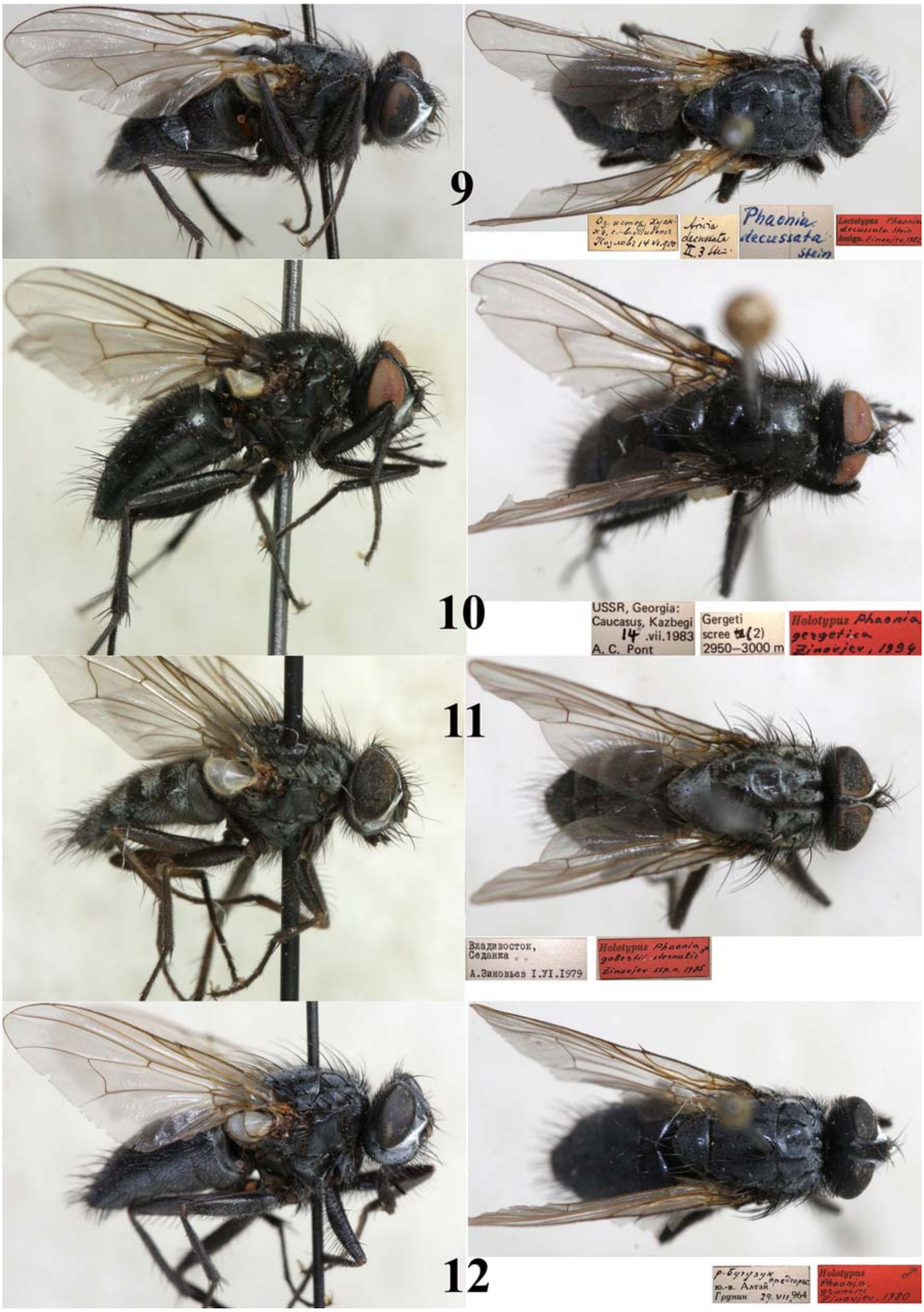
MATERIAL. **ZIN:** Paratypes, 5♂♂, 1♀. RUSSIA, *Crimea* reg., Sebastopol Tauria, V. Pliginski (=Sevastopol, V. Pliginski), 3♂♂ from pupae on the same single pin;

AZERBAIJAN, *Nakhchivan* reg., Нах АССР, Бузгов, на иве, М. Данилевский (= Ashagi-Buzgov, 39.51°N 45.40°E, 1400 m asl, on willow, M. Danilevsky), 14–17.04.1962, 2♂♂, 1♀.

Other type material. ZMHU. Holotype ♂ and paratype 1♀: Prov. Sachsen Genthin Prof. P. Stein (= GERMANY, *Saxony-Anhalt* reg., Genthin, 52.40°N 12.15°E), 7.06.1902 [Pont, Werner, 2006].

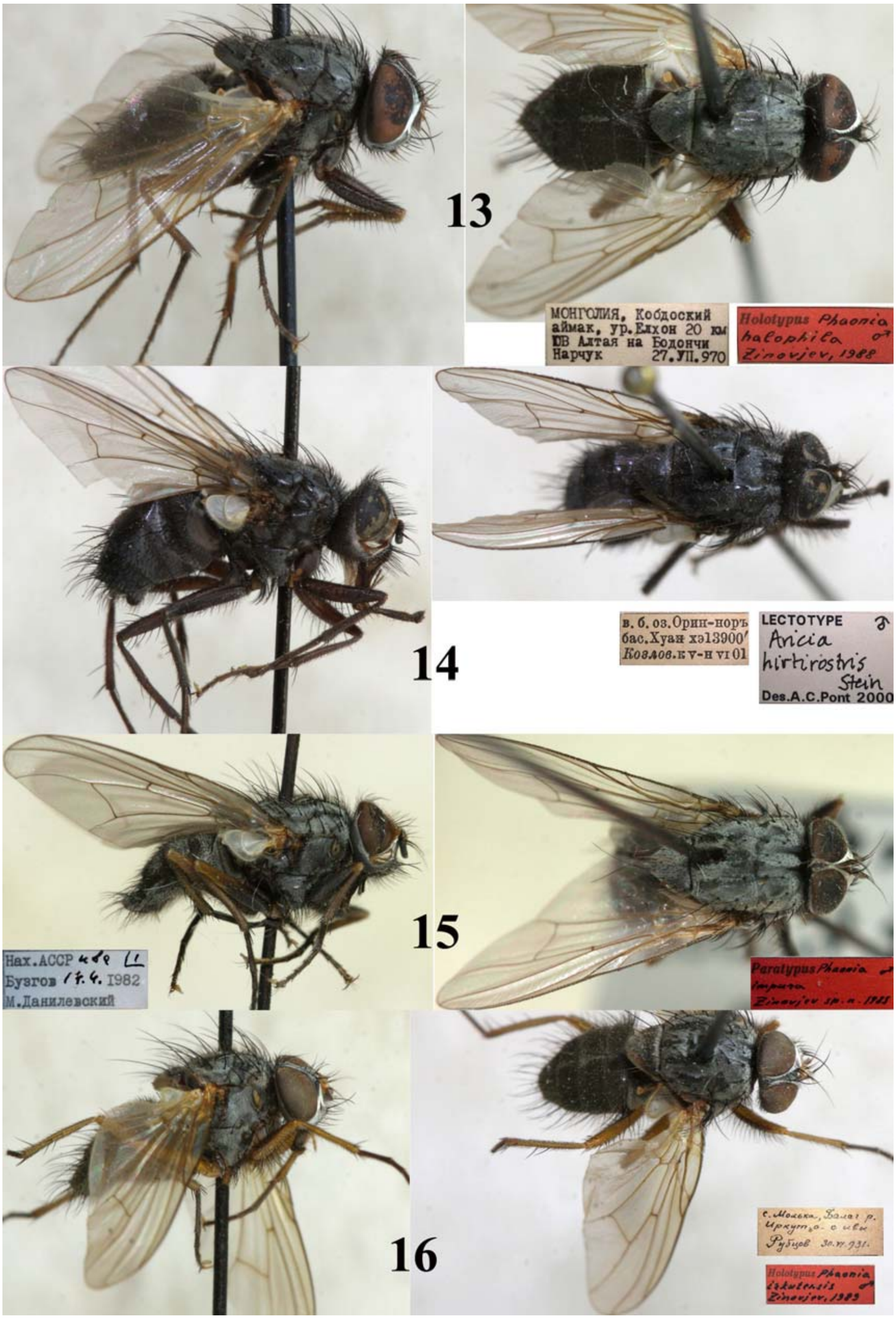
Phaonia irkutensis Zinovjev, 1990: 493 (*Phaonia*) Fig. 16.

MATERIAL. **ZIN:** Holotype, ♂: с. Молька, Балаг. р. Иркут. о. с ивы Рубцов 30.VI.931 (= RUSSIA, *Irkutsk* reg.,



Figs 9–12. *Phaonia* spp., ♂ holotypes: 9 — *P. decussata* Stein, 1907; 10 — *P. gergetica* Zinovjev, 1994; 11 — *P. gobertii sternalis* Zinovjev, 1987; 12 — *P. grunini* Zinovjev, 1980,

Рис. 9–12. *Phaonia* spp., ♂ голотипы: 9 — *P. decussata* Stein, 1907; 10 — *P. gergetica* Zinovjev, 1994; 11 — *P. gobertii sternalis* Zinovjev, 1987; 12 — *P. grunini* Zinovjev, 1980.



Figs 13–16. *Phaonia* spp.: 13 — *P. halophila* Zinovjev, 1990, ♂ holotype; 14 — *P. hirtirostris* Stein, 1907, ♂ holotype; 15 — *P. impura* Zinovjev, 1987, ♂ paratype; 16 — *P. irkutensis* Zinovjev, 1990, ♂ holotype.

Рис. 13–16. *Phaonia* spp.: 13 — *P. halophila* Zinovjev, 1990, ♂ голотип; 14 — *P. hirtirostris* Stein, 1907, ♂ голотип; 15 — *P. impura* Zinovjev, 1987, 1987, ♂ паратип; 16 — *P. irkutensis* Zinovjev, 1990, ♂ голотип.

Balagansky distr., Molka vill., 53.88°N 103.34°E, from willow, I. Rubtsov, 30.06.1930), Holotypus ♂ Phaonia irkutensis Zinovjev, 1989.

Paratypes, 1♂, 2♀♀. MONGOLIA: Селенгинск., аймак, 25 км В Дархана, разнотравно-караганов. Степь, Сугоняев (= *Selenge* prov., 25 km E of Dakhan, motley grass – Caragana steppe, E. Sugonyaev), 2.08.1975, 1♀; Убс. аймак,, 50 км ВЮВ Улангома, ловушка Малеза, Зайцев, Нарчук (= ***Uvs*** prov., 50 km SEE of Ulangom, 49.95°N 92.65°E, Malaise trap, V. Zaitsev and E. Narchuk), 7.08.1975, 1♀; Bulgan aimak, Namnan ul Gebirge, 5 km o von somon, Abzaga, 1400 m, Exp. Dr. Z. Kascab (= *Bulgan* prov., Gurvanbulag-Avzaga, 47.75°N 103.40°E), 2.07.1964, 1♂.

Other type material. MNM. Paratypes, 3♂♂, 2♀♀, collected by Z. Kaszab [Zinovjev, 1990] should be in MNM: MONGOLIA: *Bayan-Olgii* prov., im Tal des Flusses Chavcalyn gol, 25 km O von Somon Cagannuur, 1850 m (= 25 km E of Tsagaannuur, 49.58°N 90.04°E), 3.08.1968, 1♂, 1♀; *Tov* prov.: 11 km OSO von Somon Bajanzogt, 1600 m (11 km SEE of Somon Bayantsogt, 48.05°N 105.98°E), 26.07.1968, 1♂; Tosgoni ovoo, 10 km N von Ulan-Baator, 1700–1900 m (48.02°N 106.95°E), 23–24.07.1967, 1♂; *Bayankhongor* prov., Oase Echin gol, 90 km NO von Grenzposten Caganbulag (= 90 km NE of Caganbulag Checkpoint, H"43.5°N 98.5°E), 950 m, 27-28.06.1967, 1♀.

REMARKS. Several specimens are marked as "paratypes", but localities are not mentioned in the original description 5♂♂, 3♀♀ [Zinovjev, 1990]: Mongolia: Bulgan aimak, Namnan ul Gebirge, 23 km NW von Somon, Chutag (49.51°N 102.49°E), 1150 m Exp. Dr. Z. Kascab, 17.06.1968, , 1♂; Хэнтэйский, аймак, пойма р. Онон, в окр Биндера или Баян-Адраги М. Козлов, И. Кержнер (Onon River flood-lands, from Binder, 48.65N, 110.60E to Bayan-Ardaga 48.57N, 111.06°E, M. Kozlov and I. Kerzhener), 4–7.07.1976, 2♂♂, 3♀♀; China, горы Ганьсу, VIII.1871, Пржевальский 77460 (= Gansu Mts., H" 37°N 103°E, Aug 1871, N. Przhevalsky), 1♂; Былыра, Чит. обл., пойма реки Кыра, В. Рихтер (= Russia, *Zabaykalsky* reg., Bylyra village, flood-lands of Kyra River, 49.69°N 111.73°E, V. Rikhter), 19.06.1975, 1♂.

Phaonia kambaitiana Emden, 1965: 236 (*Phaonia*)

MATERIAL. **ZIN:** Paratype, 1♂: (MYANMAR, *Kachin* st.), N. E. Burma Kambaiti (25.53°N 98.14°E), 7000 ft, R. Malaise, 18.04.1934; Phaonia kambaitiana, sp.n. paratype, Van Emden det., 1953; Pres by, Com.Inst.Ent., B.M. 1957–401.

Other type material. NRS: Holotype ♂, the same locality, 7.05.1934.

NRS, BMNH and ZMUH: paratypes 28♂♂, 7♀♀, the same locality as the above mentioned paratype [Emden, 1965].

Zoological Survey of India, Calcutta, paratypes: 1♂, 1♀, INDIA: (*Uttarakhand* st.), Dehradun (30.3°N 78.0E) distr., 9000 ft. = 2700 m asl, May.1910, 1♂; (*Himachal Pradesh* st.), Shimla Hills, between Phagu and Kufri (31.09°N 77.29°E), 8000-9000 ft. = 2400–2700 m asl, 21.05.1916, 1♀ [Emden, 1965].

Phaonia kaszabi Zinovjev, 1990: 504 (*Phaonia*)

MATERIAL. **ZIN:** paratypes, 2♀♀, MONGOLIA: Восточный аймак, Дучин-Гол 10 км СВ Гурван-Дзагала Нарчук (= *Dornod* prov., 10 km NE of Gurvanzagal, 49.1°N 115.0°E, 800 m asl, E. Narchuk), 23.07.1975, 1♀; Chovsgol aimak, 3 km SW von Somon Buren-chaan , 1650 m Exp. Dr. Z. Kaszab (= *Khovsgol* prov., 3 km SW of (Burentogtokh?, 49.61°N 99.56°E), 16.07.1968, 1♀.

Other type material. MNM. Holotype, ♂: Chentej aimak: zw. Somon Zenchermandal u. Somon Zargaltchaan, 1400 m, Exp. Dr .Z. Kaszab (MONGOLIA, *Khentii* prov., between Somon Tsenkhermandal and Somon Jargaltkhaan, 47.6°N 109.27°E, 1400 m asl), 27.07.1965.

Paratypes 3♀♀. MONGOLIA, *Khovsgol* prov., Exp. Dr .Z. Kaszab: the same label as the holotype, 1♀; *Chovsgol* aimak, 4 km NW von der Stadt Moron, 1500 m, Z. Kaszab (= 4 km NW of Moron, 49.65°N 100.12°E), 19.07.1968, 1♀; Chovsgol aimak, 3 km SW von Somon Burenchaan, 1650 m (= 3 km SW of (Burentogtokh (?) 49.61°N 99.56°E), 21.06–16.07.1968, 1♀ [Zinovjev, 1990].

Phaonia kirgisorum Malianov, 1993: 421 (*Phaonia*) Fig. 17.

MATERIAL. **ZIN:** Holotype, ♂: Киргизский Алатау ущ.р. Мерке. 1500 на скале Малянов 19.VII.988 (= KAZAKHSTAN, Kyrgyz Alatau = Kyrgyz Range, 20 km S of Merke, Merke R. gorge, 42.695°N 73.242°E, on rock, M. Malyanov, 19.07.1988), Ph. kirgisorum Malianov sp.n. (голотип).

Phaonia kowarzii Schnabl, 1887: 837 (Aricia)

MATERIAL. **ZIN:** Syntype, ♂: Aricia kowarzii Schn. Mohylev-Gouv. Syntype ♂ Aricia kowarzii Schnabl Conf. A. C. Pont 2000 (= BELARUS, *Mogilev* reg.).

Phaonia liliputa Zinovjev, 1990: 498 (*Phaonia*)

MATERIAL. **ZIN:** paratypes, 5♂♂: Central aimak, SO von Somon Bajanzogt 1600 m Exp. Dr. Z. Kaszab, (= MONGOLIA, ***Tov*** (Central) prov., SE of Bayantsogt, H" 47.88°N 106.29°E), 11.06.1966.

Other type material. MNM: Holotype ♂ and the rest of paratypes. According to Zinovjev [1990] in MNM should be 16♂♂, 8♀♀ paratypes: MONGOLIA: the same label as ZIN's paratypes, 13♂♂, 5♀♀; (*Tov* prov.): Central aimak, Exp. Dr. Z. Kaszab, 12 km SE von Ulan-Baator, Nucht im Bogdo (47.84°N 107.16°E), 6.07.1964, 2♀♀; Tosgoni ovoo, 6–10 km N von Ulan-Baator, 1700 m, 7–8.06.1964, 1♀; 23–24.07.1967, 2♂♂; Changaj Gebirge, 8 km W von somon Urdtamir, 1620 m, Z. Kaszab) (= *Arkhangai* prov., Khangai Mts, somon Ikh Tamir, Urd Tamir gol = S Tamir River, 47.5°N 101.0°E), 22.07.1966, 1♂.

Phaonia longipalpis Emden, 1965: 264 (*Phaonia*)

MATERIAL. **ZIN:** Paratypes, 2♂♂: (MYANMAR, *Kachin* st.), N. E. Burma Kambaiti (25.53°N 98.14°E), 2000 m, R. Malaise, 4.06.1934; Phaonia longipalpis sp.n. paratype, Van Emden det., 1953; Pres by, Com.Inst.Ent., B.M. 1957–401.

Other type material. NRS: Holotype ♂, the same locality as the above mentioned paratype, 1.06.1934.

NRS, BMNH and ZMUH: paratypes, 73♂♂, 28♀♀, the same locality, 6.04–17.06.1934 [Emden, 1965].

Phaonia lutescens Zinovjev, 1990: 482 (*Phaonia*) Fig. 42.

MATERIAL. **ZIN:** paratypes, 2♂♂, 1♀: MONGOLIA, Bajanchongoraimak, Oase Echin gol, 90 km NO von Grenzposten Caganbulag, 950 m, Exp. Dr. Z. Kaszab (**=** *Bajanchongor* prov., 90 km NE of Caganbulag Checkpoint, H"43.5°N 98.5°E), 27–29.06.1967.

Other type material. MNM. Holotype, ♂: MONGOLIA, Bajanchongoraimak, Oase Echin gol, 90 km NO von Grenzposten Caganbulag, 950 m Exp. Dr. Z. Kaszab (= *Bajanchongor* aimak, 90 km NE of Caganbulag Checkpoint, H"43.5°N 98.5°E), 27–29.06.1967.

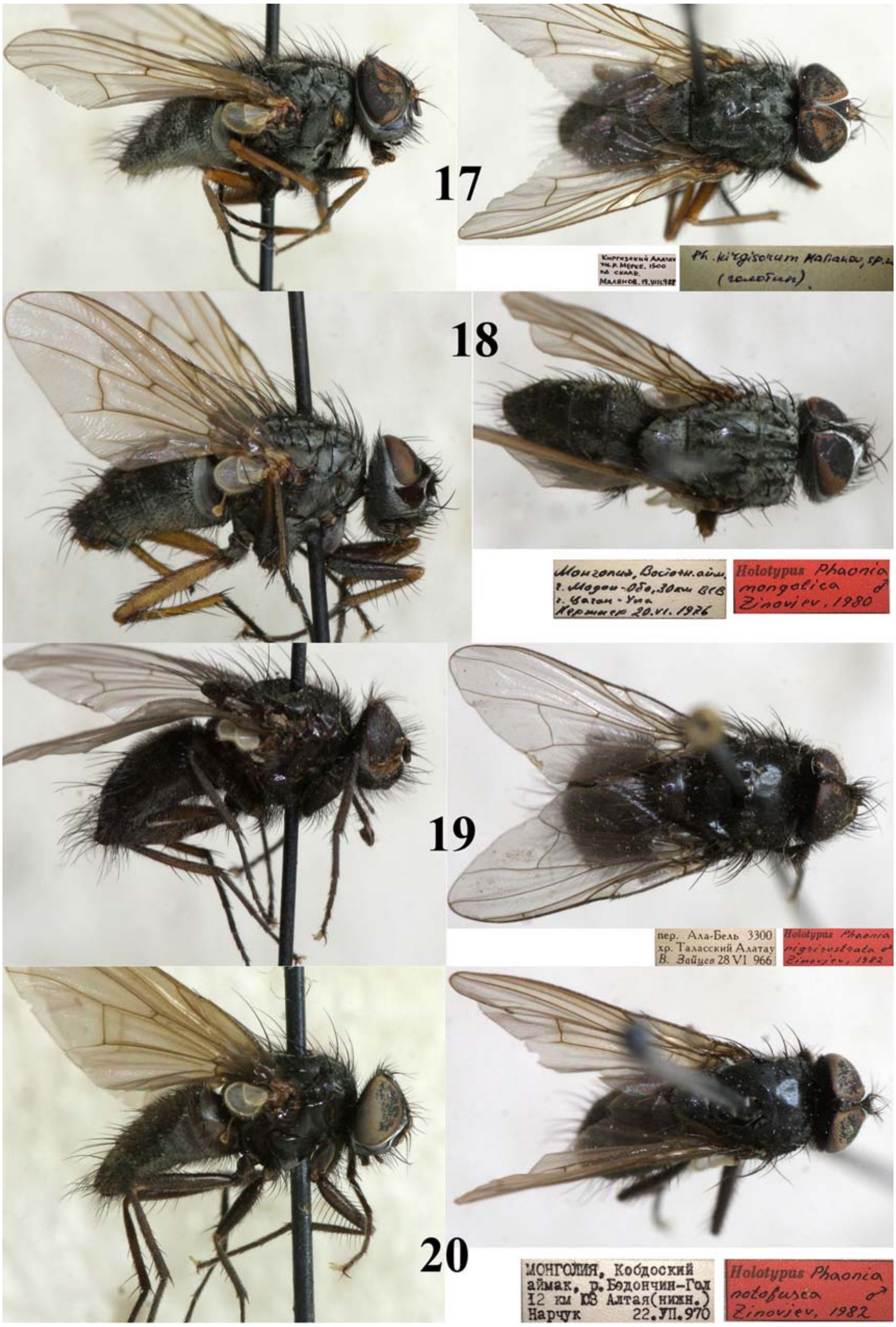
Paratypes: 4♂♂, 4♀♀: MONGOLIA: the same label as the holotype, 4♂♂, 2♀♀; Central aimak, Tosgoni ovoo, 5-10 km N von Ulan-Baator, 1500–1700 m, 19–20 and 23–24.VII.1967, Exp. Dr. Z. Kaszab (= *Tov* prov., 5–10 km N of Ulan-Baator, 48.0°N 106.9°E), 19–24.07.1967, 2♀♀.

Phaonia malaiseana Emden, 1965: 257 (*Phaonia*)

MATERIAL. **ZIN:** Paratype, 1♂: (MYANMAR, *Kachin* st.), N. E. Burma Kambaiti (25.53°N 98.14°E), 2000 m, R. Malaise, 18.04.1934; Phaonia longipalpis sp.n. paratype, Van Emden det., 1953; Pres by, Com.Inst.Ent., B.M. 1957î401. **Other type material**. NRS: Holotype ♂, the same locality as the above mentioned paratype, 7.05.1934. NRS, BMNH and ZMUH: patatypes, 28♂♂, 7♀♀, the same locality, 6.04–4.06.1934 [Emden, 1965].

Phaonia marakandensis Hennig, 1963: 843 (*Phaonia*) Fig. 22.

MATERIAL. **ZIN:** Holotype, ♂: ствол дерева Самарканд Узб. Сычевская 21.IV.1961 (= UZBEKISTAN, Samarkand, 39.6°N



Figs 17–20. *Phaonia* spp., ♂ holotypes: 17 — *P. kirgisorum* Malianov, 1993; 18 — *P. mongolica* Zinovjev, 1980; 19 — *P. nigrirostrata* Zinovjev, 1983; 20 — *P. notofusca* Zinovjev, 1983.

Рис. 17–20. *Phaonia* spp., ♂ голотипы: 17 — *P. kirgisorum* Malianov, 1993; 18 — *P. mongolica* Zinovjev, 1980; 19 — *P. nigrirostrata* Zinovjev, 1983; 20 — *P. notofusca* Zinovjev, 1983.

67.0°E, V. Sychevskaya, 21.04.1961), Holotypus Phaonia marakandensis n.sp. Hennig.

Phaonia modesta Sorokina, 2015: 579 (*Phaonia*)

MATERIAL. **ZIN:** Holotype, ♂, UZBEKISTAN, *Samarqand* reg., Samarkand, H"39.6°N 67.0°E, V. Sychevskaya, emergence from faeces 8.05.1949.

Paratypes 11♂♂, 7♀♀. UZBEKISTAN, *Samarqand* reg.: the same label as the holotype, 1♂; the same label as the holotype, but date 15.04.1949, 4♂♂; the same label as the holotype, but emergence from dump and date 26.04.1949, 1♂, 2♀♀; the same label as the holotype, but date 31.03.1949, 2♂♂, 3♀♀; *Fergana* reg.: Shakhimardan, 39.98°N 71.80°E (actually Shakhimardan is an exclave of Uzbekistan, surrounded by Kyrgyzstan), V. Sychevskaya, 29.08.1955, 1♂; Fergana, 40.4°N 71.8°E, 8.05.1953, V. Sychevskaya, 1♂; *Surxondaryo* reg.: Termez, 37.2°N 67.3°E, V. Sychevskaya, 24.02.1958, 1♂; Baysun 38.2°N 67.2°E, V. Sychevskaya, 9.06.1957, 1♀;

TURKMENISTAN, *Balkan* reg., Kara-Kala, 38.43°N 56.30°E, bank of Sumbar River, Ushinsky, 1933, 1♀ (modified from [Sorokina, 2015]).

Other type material. ZMUM, paratypes, 2♂♂: TURKMENISTAN, *Ahal* reg., Geok Tepe env., Chuli River gorge in Kopet Dag Range, 38.0°N 58.0°E, N. Krivosheina, emergence from fungus 10–13.06.1984, 1♂; TAJIKISTAN, *Sughd* reg., Varzob village, 38.79°N 68.82°E, 1100 m asl, A. Romanov, 14.05.1939, 1♂.

Phaonia mongolica Zinovjev, 1980: 442 (*Phaonia*) Fig. 18.

MATERIAL. **ZIN:** Holotype, ♂: Монголия, Восточн. айм. г. Модон-Обо, 30км ВСВ х. Цаган-Ула Кержнер 20.VI.1976 (= MONGOLIA, *Dornod* prov., Modon-Obo Mt, 30 km NEE of Tsagan-Ula Range, 46.9°N 117.0°E, I. Kerzhener), 20.06.1976. Holotypus Phaonia mongolica ♂ Zinovjev, 1980.

Paratypes, 1♂, 1♀. MONGOLIA: the same label as the holotype, 1♀; Восточный, аймак, г. Дерхан-Цаган-, Обо, 60 км ВСВ Баян-Бурда, Кержнер (= *Dornod* prov., Derkhan-Tsagaan-Ovoo Mt., 46.8°N 118.2°E, I. Kerzhener), 2–4.08.1976, 1♂.

Phaonia nigrirostrata Zinovjev, 1983: 190 (*Phaonia*) Fig. 19.

MATERIAL. **ZIN:** Holotype, ♂: пер. Ала-Бель 3300 хр. Таласский Алатау В. Зайцев 28.VI.966 (= KYRGYZSTAN, Talas Alatau Range, Alabel Pass, 42.25°N 73.05°E, 3300 m asl, V. Zaitsev, 28.06.1966), Holotypus Phaonia nigrirostrata ♂ Zinovjev, 1982.

Paratypes 12♂♂, 16♀♀. KYRGYZSTAN: the same label as the holotype, 1♀; Терской Алатоо, Чон Кызыл-су, Второв (= Terskey Alatau Range, Chong Kyzyl-Suu valley, 42.28°N 78.11°E, P. Vtorov), 16–17.05.1965, 3♂♂, 5♀♀; 19.04.1964, 1♀; Тянь-Шань, верх реки Б. Нарын, 3500 м, Злотин (= Tian-Shan, upper reaches of B. Naryn River, 3500 m asl, 41.73°N 77.89°E, R. Zlotin), 9.07.1965, 1♂, 1♀; 12.06.1965, 1♂; 27.06.1965, 1♂; 1.07.1965, 1♂; 3.07.1965 2♂♂; 24.07.1964, 1♂; ледн. Кара-Баткак, 3300 м, Терской Алатоо, Второв (= Terskey Alatau, Kara-Batkak glacier, 3300 m asl, 42.17°N 78.26°E, P. Vtorov), 31.05.1965, 1♂; Тянь-Шань, р. Куйлю, П. Второв (= Tian Shan, Kuylu R., H" 42.4°N 78.5°E, P. Vtorov), 4.07.1962, 1♂; пер. Тюшасу, 3200, хр. Кирг. Алатау, В. Зайцев (= Kyrgyz Ala-Too Range, Tuu-Ashu or Tyuz-Ashu Pass, 3200 m asl, V. Zaitsev) 30.05.1966, 1♀; Чайсандк. Мерке, Ауліэат. у. (9450), Гольбек (= Sandyk Range, Merke River valley, 9450 ft. = 2880 m asl, 42.54°N 73.33°E, A. Golbek), 22.06.1910, 1♀; Терской Алатау, ю. Каракола, Кашкаров (= Terskey Alatau, S of Karakol, H"42.3°N 78.5°E, D. Kashkarov) 17–22.07.1934, 3♀♀; 26.07.1934, 1♀; у ледн. Совнаркома, ист. Нарына Семир, Кашкаров (= Semirechye or Zhetysu, source of Naryn River, 41.77°N 77.97°E, D. Kashkarov), 23.07.1934, 1♀; Нарынтау. 30 км О г. Нарын, верш. горы субальпийск. луг К. Городков (= 30 km E of Naryn town, mountain peak, subalpine meadow, H"41.45°N 76.41°E, K. Gorodkov), 8.08.1969, 1♀.

Other type material. ZMUM:.paratype, 1♀, хр. Терской, Чонкызылсу, Станция АН, Д. Панфилов (= KYRGYZSTAN, Terskey Alatau Range, Chong Kyzyl-Suu valley, research station, 42.28°N 78.11°E, D. Panfilov), 24.06.1953, with A. Pont's 1971 label *Phaonia hirtirostris* and Zinovjev's label *Phaonia nigrirostrata* Zinovjev, 1982, paratypus.

REMARKS. Four specimens listed as paratypes by Zinovjev [1983] were not found, possibly they are in BMNH.

Phaonia notofusca Zinovjev, 1983: 184 (*Phaonia*) Fig. 20.

MATERIAL. **ZIN:** Holotype, ♂: Монголия, Кобдоский аймак, р. Бодончин-Гол 12 км ЮЗ Алтая (нижн.) Нарчук 22.VII.970 (= MONGOLIA, *Khovd* prov., 12 km SW of Mongolia Altai Mts, on Bodonchiyn River, 45.94N, 92.50°E, E. Narchuk, 22.07.1970), Holotypus Phaonia notofusca Zinovjev, 1982.

Paratypes 29♂♂, 6♀♀. MONGOLIA: the same label as the holotype, collector E. Narchuk or V. Zaitsev, 22–27.07.1970, 21♂♂, 6♀♀; Кобдоский аймак, родн. Нарийн-Булак, хр.Их-Хавтгийн-Нуру, Нарчук (= *Khovd* prov., Nariyn-Bulak water sorce, H"45.94N, 92.50°E, E. Narchuk), 24.07.1970, 3♂♂; Гоби-Алт. Аймак, родн. Хайчи-Булак, 60 км ЮВ Бугата, Нарчук (= *Govi-Altai* prov.,60 km SE of Bugat, 45.2°N 94.8°E, E. Nurchuk), 19.07.1970, 3♂♂; KYRGYZSTAN, р. Чу 10 км южн. Рыбачье Кирг. 1600 м, Нарчук (= 10 km S of Balykchy=Rybachie, Chu River, 42.39°N 76.09°E, 1600 m asl, E. Narchuk), 5.08.1969, 2♂♂.

Other type material. ZMUM: paratype, MONGOLIA, 1♂, the same label as the holotype.

One paratype mentioned in the description [Zinovjev, 1983], Кобдоский аймак, ур. Елхон 20 км ЮВ Алтая на Бодончи Нарчук (= MONGOLIA, *Khovd* prov., 20 km S of (Mongolian) Altai Mts, on Bodonchiyn River, 45.88°N 92.43°E, E. Narchuk), 27.07.1970, 1♂, was not found.

Phaonia nudiseta Stein, 1907: 318 (*Aricia*) Fig. 41.

MATERIAL. **ZIN:** Lectotype, ♂: р. Кундур чю 135т' Камъ, бас. Голубой Козлов 12 v 01 (= CHINA, *Sichuan* prov., Yangtze River basin, Kundur chu R., H"33.2°N 98.1°E, 4100 m asl, 12.05.1901, P. Kozlov (see discussion on type locality of *Lispe brunnicosa* [Vikhrev, 2012: 431]), Lectotype ♂ Aricia nudiseta Stein Des A. C. Pont 2000.

Paralectotypes 2♂♂, CHINA, the same label as the holotype.

Other type material. ZMHU, paralectotype, 1♂, CHINA, the same label as the lectotype (but the collector is A. Kaznakov and the altitude is 4050 m asl) is in ZMHU [Pont, Werner, 2006].

Phaonia obsoleta Hennig, 1963: 849 (*Phaonia*) Fig. 43.

MATERIAL. **ZIN:** Holotype, ♂: пер. Анзоб. Гиссар. хр., Тадж Грунин 30.VI.956 (= TAJIKISTAN, *Sughd* reg., Gissar Range, Anzob pass, 39.08°N 68.87°E, H"3300 m asl, 30.06.1956, K. Grunin), Phaonia obsoleta n.sp. Hennig Holotypus.

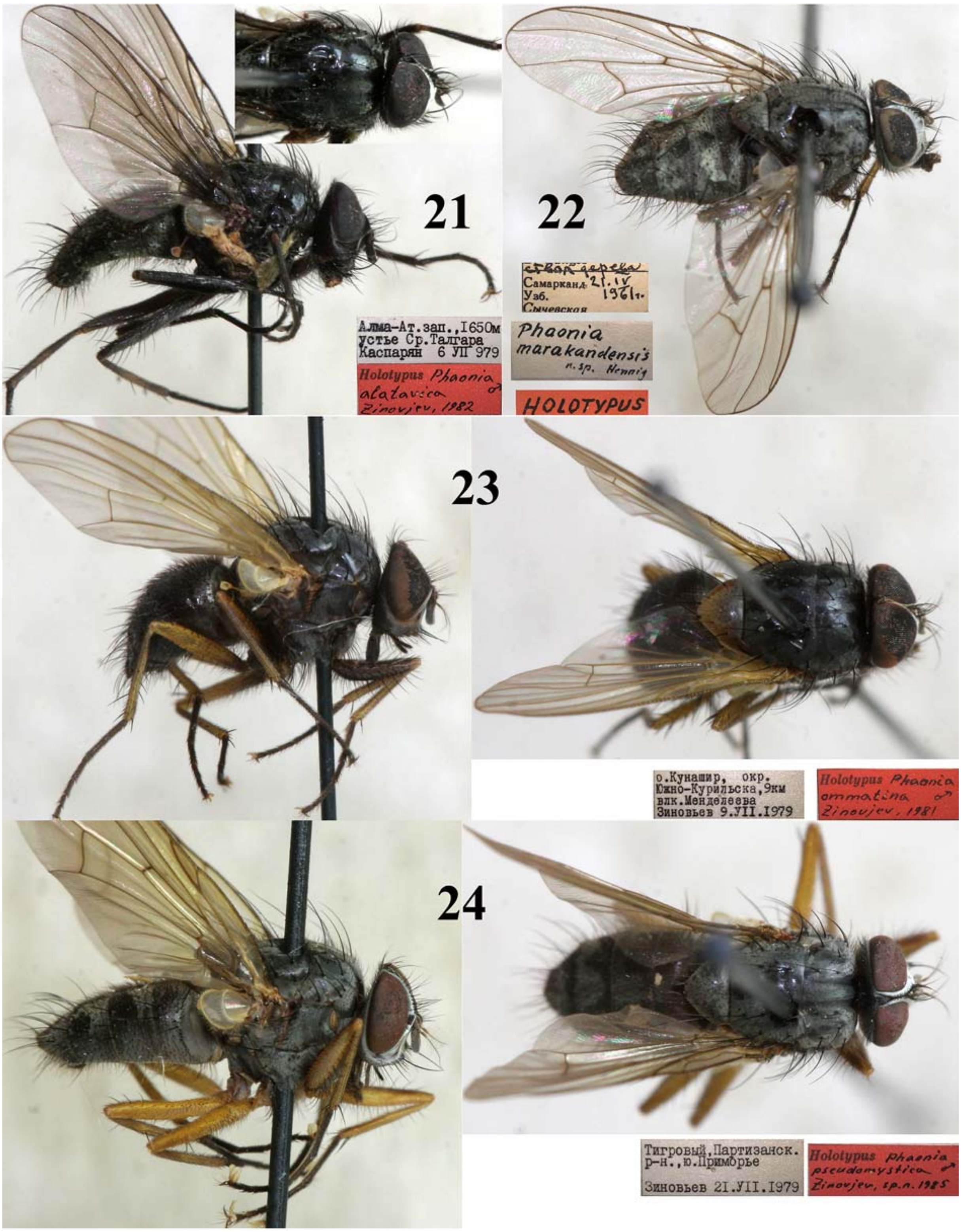
Phaonia ommatina Zinovjev, 1981: 624 (*Phaonia*) Fig. 23.

MATERIAL. **ZIN:** Holotype, ♂: о. Кунашир, окр. Южно-Курильска, 9км влк. Менделеева Зиновьев 9.VII.1979 (= RUSSIA, *Sakhalin* reg., Kunashir Isl., 9 km from Yuzhno-Kurilsk, Mendeleev volcano, 43.98°N 145.75°E, A. Zinovjev, 9.07.1979), Holotypus Phaonia ommatina ♂ Zinovjev, 1981.

Paratypes, 14♂♂, 1♀, RUSSIA, *Sakhalin* reg.: the same label as the holotype, 1♂; о. Кунашир, окр., Южно-Курильска, Зиновьев (= Kunashir Isl., Yuzhno-Kurilsk (44.03°N 145.86°E) env., A. Zinovjev), 4–7.07.1979, 12♂♂, 1♀; Курильск, о. Итуруп, В. Рихтер 25.VI.968 (= Iturup Isl., Kurilsk, 45.25°N 147.89°E, V. Rikhter), 25.06.1968, 1♂.

Other type material. ZMUM: paratype, 1♂: о. Кунашир, окр., Южно-Курильска, Зиновьев (= RUSSIA, *Sakhalin* reg., Kunashir Isl., Yuzhno-Kurilsk (44.03°N 145.86°E) env., A. Zinovjev), 5.07.1979.

One paratype mentioned in the description [Zinovjev, 1981] (the same label as the holotype, 1♂) was not found.



Figs 21–24. *Phaonia* spp., ♂ holotypes: 21 — *P. alatavica* Zinovjev, 1983; 22 — *P. marakandensis* Hennig, 1963; 23 — *P. ommatina* Zinovjev, 1981; 24 — *P. pseudomystica* Zinovjev, 1987.

Рис. 21–24. *Phaonia* spp., ♂ голотипы: 21 — *P. alatavica* Zinovjev, 1983; 22 — *P. marakandensis* Hennig, 1963; 23 — *P. ommatina* Zinovjev, 1981; 24 — *P. pseudomystica* Zinovjev, 1987.

Phaonia oxystoma Emden, 1965: 233 (*Phaonia*)

MATERIAL. **ZIN:** Paratype, 1♂: (MYANMAR, *Kachin* st.), N. E. Burma Kambaiti (25.53°N 98.14°E), 2000 m, R. Malaise, 4.06.1934, Phaonia oxystoma sp.n. paratype Van Emden det., 1953; Pres by, Com.Inst.Ent., B.M. 1957–401.

Other type material. NRS: Holotype ♂, the same locality as the above mentioned paratype, 6.04.1934.

NRS, BMNH and ZMUH: paratypes, 22♂♂, 10♀♀, the same locality, 30.04–17.06.1934 [Emden, 1965].

Zoological Survey of India, Calcutta, paratypes: 2♂♂, 2♀♀, (INDIA, *W Bengal* st.), N India, Darjeeeling (27.04°N 88.26°E), 9000ft. = 2700 m asl, E. Brunetti, 27–29.05.1910 [Emden, 1965].

Phaonia oxystomodes Emden, 1965: 237 (*Phaonia*) Fig. 44.

MATERIAL. **ZIN:** Paratype, 1♂: (MYANMAR, *Kachin* st.), N. E. Burma Kambaiti (25.53°N 98.14°E), 2000 m, R. Malaise, 18.04.1934, Phaonia oxystomodes sp.n. paratype Van Emden det., 1953; Pres by, Com.Inst.Ent., B.M. 1957–401.

Other type material. NRS: Holotype ♂, the same locality as the above mentioned paratype, 24.04.1934.

NRS, BMNH and ZMUH: paratypes, 24♂♂, 16♀♀, the same locality, 8.04–17.06.1934 [Emden, 1965].

Phaonia paradecussata Hennig, 1963: 853 (*Phaonia*) Fig. 25.

MATERIAL. **ZIN:** Holotype, ♂: пер. Анзоб. Гиссар хр. Тадж. Грунин 7.VI.956 (= TAJIKISTAN, *Sughd* reg., Gissar Range, Anzob pass, 39.08°N 68.87°E, H"3300 m asl, 7.06.1956, K. Grunin), Phaonia paradecussata ♂ Hennig n.sp. Holotypus.

Paratypes 2♂♂, TAJIKISTAN: the same label as the holotype, 3.07.1956, 1♂; 11.07.1956, 1♂.

Other type material. According to Hennig's supplementary label on the holotype, 1 ♂ paratype and 1♀ were taken to SDEI. However, the ♂ paratype was not found neither in SDEI [Rohlfien, Ewald, 1974] nor in ZMHU [Pont, Werner, 2006].

REMARKS. Totally 4 more male paratypes with the same geographical part of the label as the holotype collected on 3, 8, 9 and 11.07.1956 were mentioned in Hennig's [1963] original description. The paratypes from 8 and 9.07.1956 were not found. We found one more ♂ marked as a paratype (probably by Zinovjev), but it is not a paratype because it was collected on 5.07.1956. There are also several ♂♂ and ♀♀ specimens without identification label collected by K. Grunin in 1956 from Anzob, they are topotypes of *Ph. subdecussata* or *Ph. paradecussata*.

Phaonia pseuderrans Hennig, 1963: 860 (*Phaonia*) Fig. 26.

MATERIAL. **ZIN:** Holotype, ♂: с. Мангит Кара Каракалпакия Узбекист. 5. IV 1957г Сычевская (= UZBEKISTAN, *Karakalpakstan* reg., Mangit village, 42.1°N 60.1°E, V. Sychevskaya, 5.04.1957), Phaonia pseuderrans n.sp. Hennig Holotypus.

Phaonia pseudomystica Zinovjev, 1987: 436 (*Phaonia*) Fig. 24.

Phaonia mystica Meigen, 1826 sensu Shinonaga & Kano [1971], misidentification.

MATERIAL. **ZIN:** Holotype, ♂: Тигровый, Партизанск. р-н., ю. Приморье Зиновьев 21.VII.1979 (= RUSSIA, *Primorsky* reg., Partizansky dist., Tigrovyi, 43.844°N 132.772°E, A. Zinovjev, 21.07.1979), Holotypus Phaonia pseudomystica ♂ Zinovjev sp.n. 1985.

Paratypes, 3♂♂, 19♀♀, RUSSIA, *Primorsky* reg.: the same label as the holotype, 1♀; с. Молчановка, Партизанск. р-н лес, В. Куслицкий (= Partizansky dist., Molchanovka vill., 43.48°N 133.36°E, V. Kuslitsky), 28.06.1972, 1♂;

Анисимовка, Шкот. р-н., Приморье, А.Зиновьев (= Shkotovsky dist., Anisimovka, 43.17°N 132.79°E, A. Zinovjev), 22.07.1979, 1♀; 28.07.1979, 3♀♀; 11–13.09.1979, 4♀♀; Владивосток, Седанка, Зиновьев (= Vladivostok, Sedanka, 43.2°N 132.0°E, A. Zinovjev), 15.05.1979, 1♂; 19.07.1979, 1♀; Океанская, Владивосток, А.Зиновьев (= Vladivostok, Okeanskaya, 43.26°N 132.04°E, A. Zinovjev), 29.08.1978, 1♀; Б. Золотой Рогъ., Владив. Прим., обл. Рыдзевскій и Вр. Кузнецовъ (= Vladivostok, Zolotoy Rog Bay, 43.10°N 131.88°E, Rydzevsky and Kuznetsov), 8.07.1911, 1♀; зап. Кедровая падь, южн. Приморье, Нарчук (= Kedrovaya Pad Nat. Res., 43.1°N 131.5°E, E. Narchuk), 20.06.1962, 1♀; 17.08.1962, 1♀; кл. Нарва, ЮЗ, п. Барабаш, Хасанск. р-н. Приморье, Каспарян (= Khasansky distr., Barabash vill., 43.2°N 131.5°E, D. Kasparyan), 4.08.1978, 3♀♀; Горно-таежн. ст., 20 км ЮВ Уссурийска, Нарчук (= 20 km SE of Ussuriysk, Gorno-Taiozhnoe, 43.70°N 132.15°E, E. Narchuk), 2.08.1963, 1♀; верх. Чапигоу прит., Шуфана ю. Приморье, Нарчук (= upper reaches of Chapigou=Gladkaya River, tributary of Shufan=Borisovka R., 44.0°N 131.6°E, E. Narchuk), 5.07.1962, 1♀; *Amur* reg., окр. г. Зеи, Амур. обл., Зиновьев (= Zeya env., 53.7°N 127.2°E, A. Zinovjev), 23.06.1957, 1♂.

Remarks. Two specimens, 1♂, 1♀, listed as paratypes by Zinovjev [1987] were not found, possibly they are in BMNH.

Phaonia pura Loew, 1873: 48 (*Aricia*) Fig. 27.

MATERIAL. **ZIN:** Lectotype, ♂: Herculan 5.6.871 820 (= ROMANIA, Baile Herculane, 44.88°N 22.41°E, 5.06.1871), sec. type. Loew. Ar pura Lw Kowarz det. Lectotype ♂ Aricia pura Loew Des Zinovjev 1987.

Phaonia rufitarsis Stein, 1907: 321 (*Aricia*)

REMARKS. According to Pont [2013]: holotype ♂, seen by Hennig [1963: 864] but not now in ZIN and not seen by A. Zinovjev.

Phaonia sibirica Pont, 1981: 427 (*Phaonia*) Fig. 28.

MATERIAL. **ZIN:** Holotype, ♂: Низ. Оби 15. VII 1973 Лабытнанги В. Сычевская; цветы шиповника (= RUSSIA, *Yamalo-Nenets* reg., Labytnangi, 66.66°N 66.38°E, on dog rose flowers, V. Sychevskaya, 15.07.1973), Holotype ♂ Phaonia sibirica sp.n. A. C. Pont.

Other type material. BMNH, 1♀ paratype [Pont, 1981]: RUSSIA, the same label as the holotype, date 4.07.1973.

Phaonia sichotensis Zinovjev, 1980: 910 (*Phaonia*) Fig. 37.

MATERIAL. **ZIN:** Holotype, ♂: Анисимовка (Кангауз) Шкотовск. р-н, ю. Приморье Зиновьев 23.VI.1979; широкол. и хвойно-широкол. лес; (= RUSSIA, *Primorsky* reg., Shkotovsky dist., Anisimovka, 43.17°N 132.79°E, A. Zinovjev, 22.6.1979), Holotypus Phaonia sichotensis ♂ Zinovjev, 1980.

Paratypes 1♂, 1♀, RUSSIA, the same label as the holotype, date 22.06.1979.

Phaonia splendida Hennig, 1963: 872 (*Phaonia*) Fig. 29.

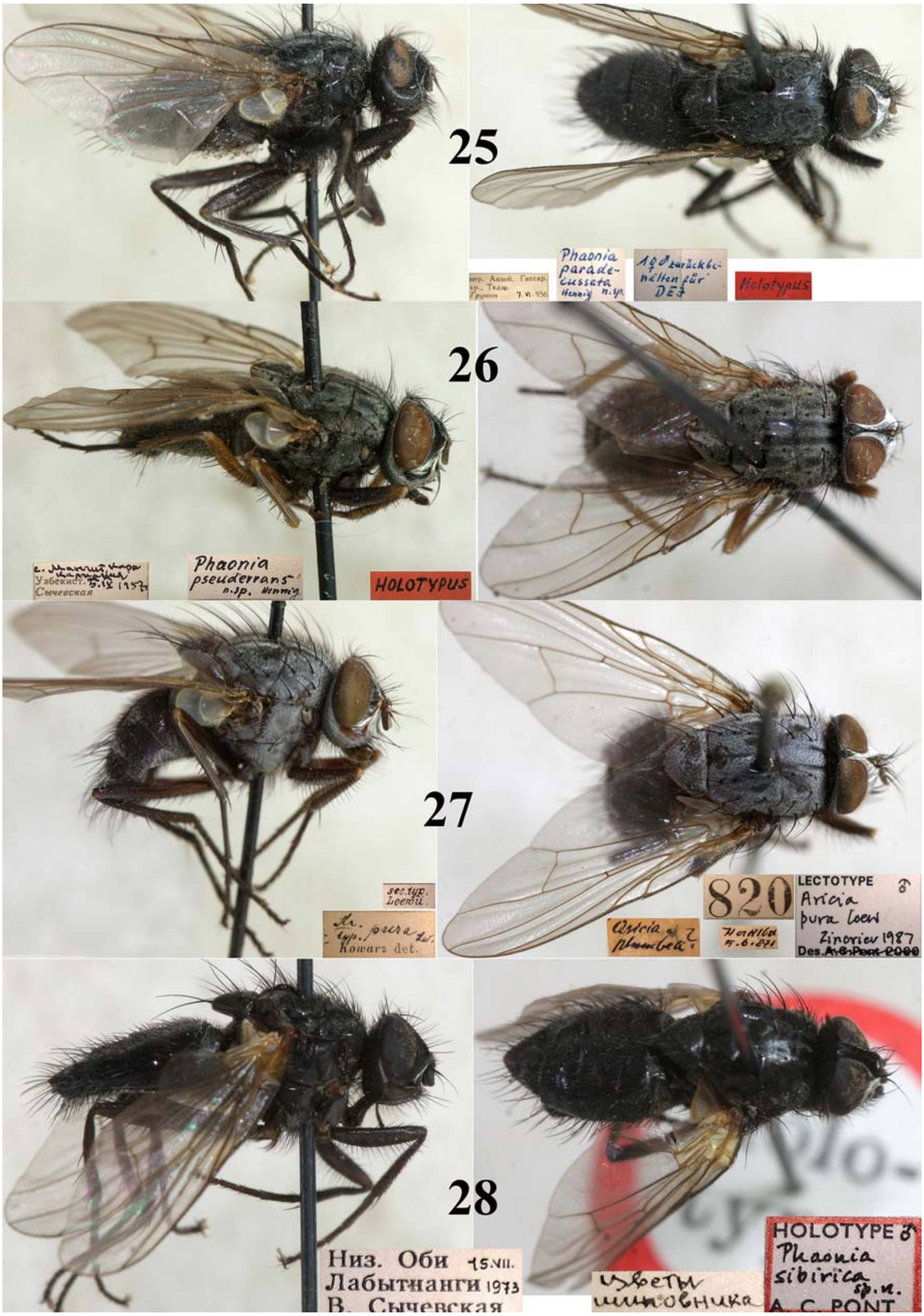
MATERIAL. **ZIN:** Holotype, ♂: пер. Анзоб. Гиссар. хр., Тадж Грунин 22.VI.956 (= TAJIKISTAN, *Sughd* reg., Gissar Range, Anzob pass, 39.08°N 68.87°E, H"3300 m asl, K. Grunin, 22.06.1956), Phaonia splendida n.sp. Hennig Holotypus.

Paratypes 2♂♂, TAJIKISTAN: the same label as the holotype, but date 23–24.06.

Other type material. According to Hennig's supplementary label on the holotype 1 specimens was taken to SDEI, it should be ♂ paratype with the the same label as the holotype. However, this ♂ paratype was not found neither in SDEI [Rohlfien, Ewald, 1974] nor in ZMHU [Pont, Werner, 2006].

Phaonia stackelbergi Hennig, 1963: 873 (*Phaonia*) Fig. 30.

MATERIAL. **ZIN:** Holotype, ♂: ур. Квак, верх. р. Кондары, Тадж. Штакельберг 7.VI.43 (= TAJIKISTAN, *Sughd* reg., upper reaches of Kondara R., Kvak tract, 38.81°N 68.81°E, H"1300 m asl,



Figs 25–28. *Phaonia* spp., ♂ holotypes: 25 — *P. paradecussata* Hennig, 1963; 26 — *P. pseuderrans* Hennig, 1963; 27 — *P. pura* Loew, 1873; 28 — *P. sibirica* Pont, 1981.

Рис. 25–28. *Phaonia* spp.:, ♂ голотип: 25 — *P. paradecussata* Hennig, 1963; 26 — *P. pseuderrans* Hennig, 1963; 27 — *P. pura* Loew, 1873; 28 — *P. sibirica* Pont, 1981.

A. Stackelberg, 7.06.1943), Phaonia stackelbergi Hennig n.sp. Holotypus.

Paratypes 2♂♂, TAJIKISTAN, *Sughd* reg: Зидды, Ю скл. Гиссарск. хр., Тадж. Штакельберг (= S slope of Gissar Range, Ziddy R., 38.81°N 68.81°E, 2000 m asl, A. Stackelberg, 14 and 16.06.1944).

Other type material. According to Hennig's supplementary label on the holotype 1 ♂ specimens was taken to SDEI, but all type material mentioned in the original description was found in ZIN.

Phaonia subcandicans Zinovjev, 1983: 188 (*Phaonia*)
Fig. 31.

MATERIAL. **ZIN:** Holotype, ♂: 30 км вост. Нарын Тянь-Шань 2600–800 Нарчук 7. VIII.969 (= KYRGYZSTAN, Tian Shan, 30 km E of Naryn, 41.44°N 76.36°E, 2600 m asl, E. Narchuk, 7.08.1969), Holotypus Phaonia subcandicans ♂ Zinovjev, 1982.

Paratypes, 3♂♂, 3♀♀, KYRGYZSTAN: Терскей Алатоо, Чон. Кызыл-су H"2200, Второв (= Terskey Alatau, Chon-Kyzyl-Su River, 42.26°N 78.12°E, 2200 m asl, P. Vtorov), 20.05.1965, 1♂; 30 км Ю Фрунзе, Кашкасу 1700 м, Каспарян (= 30 km S of Bishkek=Frunze, Kashka-Su, 42.68°N 74.55°E, 1700 m asl, D. Kasparyan), 13.06.1979, 2♂♂, 3♀♀.

Phaonia subdecussata Hennig, 1963: 875 (*Phaonia*)
Fig. 32.

MATERIAL. **ZIN:** Holotype, ♂: пер. Анзоб. Гиссар. хр. Тадж. Грунин 24.VI.956; Норы сурков (= TAJIKISTAN, *Sughd* reg., Gissar Range, Anzob pass, 39.08°N 68.87°E, H"3300 m asl, marmot burrows, K. Grunin, 24.06.1956), Holotypus Phaonia subdecussata ♂ Hennig n. sp.

Paratypes, 4♂♂, TAJIKISTAN: the same label as the holotype, 23.06.1956, 1♂; 24.06.1956, 2♂♂; 26.06.1956, 1♂.

Other type material. According to Hennig's supplementary label on the holotype 1 ♂ specimens was taken to SDEI, but all the type material mentioned in the original description was found in ZIN.

Phaonia suspiciosa Stein, 1907: 324 (*Spilogaster*)
Fig. 33.

Phaonia fusca suspiciosa Zinovjiev, 1990: 476

Phaonia fusca Meade, 1897 = *Phaonia suspiciosa* Stein, 1907 [Vikhrev, Sorokina, 2017].

MATERIAL. **ZIN:** Lectotype, ♀: р Орогын Сыртын ю Нанньшаня Гоби Роб Козлов 3-20.VII.95 (= CHINA, border of *Xinjiang* and *Qinghai* prov., S of Nanshan=Qilian Mts., H" 39°N 94°E, V. Roborovsky, P. Kozlov, 3–20.07.1895), Spilogaster suspiciosa Stein, Lectotypus Spilogaster suspiciosa Stein 1907 design. Zinovjev, 1979.

Paralectotypes, 23♂♂, 7♀♀. CHINA: the same label as the lectotype, 6♂♂, 3♀♀; р. Дза-чю, 11000' Камъ, бас. Голубой Козлов (= *Sichuan* prov., H" 32.0°N 99.5°E, 11000 ft. = 3350 m asl, P. Kozlov), mid April 1901, 1♂; р Бомын (Ичегын) св Цайдамъ, Гоби Роб Козлов кVI95 (= *Qinghai* prov., NE Tsaidam, Gobi desert, Ichegyn River, 38.0°N 94.8°E, 3100 m asl, V. Roborovsky, P. Kozlov), end of June 1895, 8♂♂, 3♀♀; Хабирга-оз. Бага цадамин, в. Цайд Роб Козлов (= *Qinghai* prov., E Tsaidam, Khabirga, Baga-tsaidamin Lake, 37.6°N 95.4°E, 3200 m asl, V. Roborovsky, P. Kozlov), 3–11.06.1895, 4♂♂, 1♀; х. Барун-Цзасака мет.ст., в. Цайдам Козлов. кон. VII01 (= *Qinghai* prov., E Tsaidam, 36.2°N 97.4°E, 2800 m asl, P. Kozlov), end of July.1901, 3♂♂; Курлык, Баингол вост. Цайдамъ Роб Козлов (= *Qinghai* prov., E Tsaidam, Kurlyk=Keluke Lake, Baingol River, 37.3°N 96.9°E, 2850 m asl, V. Roborovsky, P. Kozlov), 28.05.1895, 1♂.

Other type material. ZMHU, paralectotypes, 4♂♂, 1♀. BMNH, paralectotype, 1♂ [Pont, Werner, 2006].

REMARKS. This species is represented by large type series collected by Russian geographical expeditions in Central Asia in 1893–1895 by V. I. Roborovsky and P. K. Kozlov [Roborovsky, 1949] and in 1899–1901 by P. K. Kozlov [Kozlov, 1947]. The localities of the type specimens were shortly mentioned in Stein's [1907] original description, but the number of specimens was not provided. So did Hennig [1963].

Zinovjev [1990] regarded this species as a subspecies of *P. fusca* Meade, 1897, *Phaonia fusca suspiciosa* Stein, 1907. According to Zinovjev's opinion, the structure of the female ovipositors is more useful character than the male terminalia. That was probably the reason why he designated as the lectotype the female specimen [Zinovjev, 1990] (not a male as indicated by Pont and Werner [2006]).

Phaonia sytschevskajae Hennig, 1963: 877 (*Phaonia*)

MATERIAL. **ZIN:** Holotype, ♂: Джиргитальск. р-н Таджикистан, ур. Каратанг Сычевская 11.VI.947; цв. Ferula, (= TAJIKISTAN, *Republican Subordination* reg., Jirgatol dist., Karaton tract, 39.19°N 71.27°E, 1800 m asl, flowers of *Ferula*, V. Sychevskaya, 11.06.1947), Holotypus; Phaonia sytchevskayae n.sp. Hennig.

Paratype, 1♀, KAZAKHSTAN, *Almaty* reg., Горельник р. М. Алмаатинка, Заилиск. Алатау, кал. В. Сычевская (= Trans-Ili Alatau range, M Almaatinka R., Gorelnik gorge, 43.135°N 77.062°E, 2100 m asl, faeces, V. Sychevskaya, 17.08.1947).

Phaonia taigensis Zinovjev, 1987: 440 (*Phaonia*)
Fig. 34.

MATERIAL. **ZIN:** Holotype, ♂: Вырица, под. корой ели Ленингр. обл. l 2.V.79 im 19.V.1979, Зиновьев (= RUSSIA, *St-Petersburg* reg., Vyritsa, 59.4°N 30.3°E, , A. Zinovjev, from pupa found under fir bark 2.05.1979, ex pupa 19.05.1979), Holotypus Phaonia taigensis ♂ Zinovjev sp.n. 1985.

Paratypes, 14♂♂, 23♀♀. RUSSIA, *St-Petersburg* reg.: the same label as the holotype, but reared 15–19.05.1980 or 18–22.05.1980, 6♀♀; Семрино, 45 км Ю Ленинграда, под корой ели, 22.IV, im. 15–18.V.1980, Зиновьев (= 45 km S of St-Petersburg, Semrino, 59.54°N 30.38°E, A. Zinovjev), from pupa found under fir bark 22.04.1980, imago emerged 15-18.05.1980, 2♂♂, 3♀♀; *Amur* reg., верх. Р. Эракингры Тукурингра, Амур. долинный ельник Зиновьев (= Tukuringra Range, upper reaches of Erakingra River, 54.1°N 126.9°E, fir forest, A. Zinovjev), 21.06–2.07.1957, 2♂♂, 2♀♀; *Arkhangelsk* reg., г. Архангельск, из ходов типогр., лич. 11.VI и 20.VI, имаго 25.VI.1972 (= Arkhangelsk, 64.5°N 40.6°E, from tunnels of *Ips typographus* in fir, B. Ogibin), pupa found 20.06.1972, imago emerged 25.06.1972, 1♂; larva found 25.06.1972, imago emerged 11.07.1972, 1♀; *Perm* reg., Кунгур, Пермск. (Молотовская) обл., учлесхоз, лич под корой срубленной ели, К.Борисова, Зиновьев (= Kungur, Uchleskhoz=Preduralie NP, presently abolished, 57.36°N 57.14°E), from larvae under the bark of felled fir, A. Zinovjev, imago emerged 7–19.06.1955, 2♂♂, 1♀; from larva from litter under fir, K. Borisova, imago emerged 7.06.1956, 1♀; *Vologda* reg., Вологодская обл. Усть-Кубенск. р. Никольское 7.6.83 п/к ели, в 6.8 НКрив (= Ust-Kubensk distr, Nikolskoe, 59.85°N 39.36°E, N. Krivosheina), from pupa found under fir bark, 7.06.1983, reared 8.06.1983, 4♂♂, 4♀♀;

FINLAND, Финляндия, окр.Хельсинки, п/к осины, Б.Мамаев (= Helsinki env, reared from pupa found under aspen bark, B. Mamaev), 1♂, 1♀;

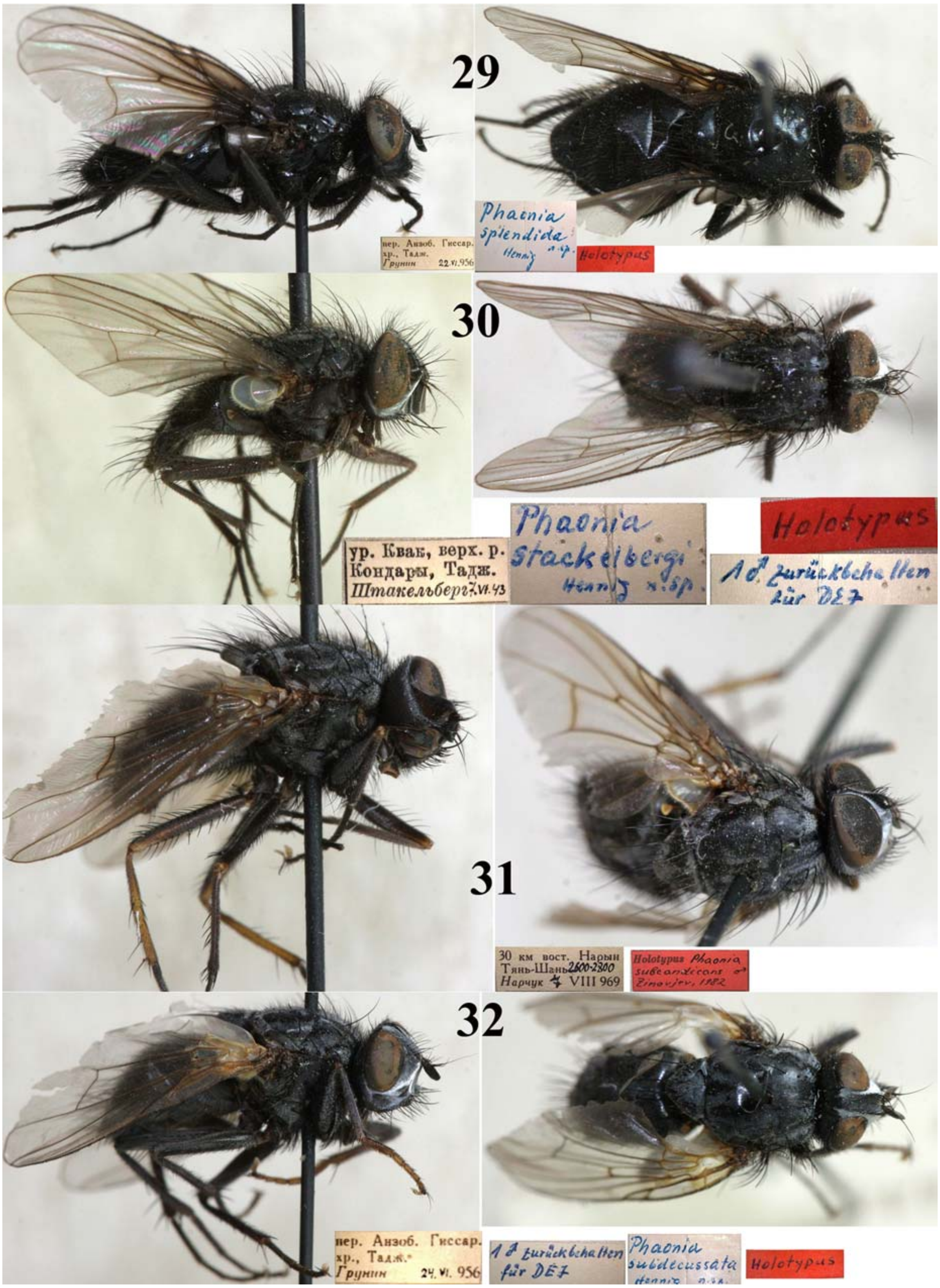
KYRGYZSTAN, *Issyk-Kul* reg., Киргизия Иссык-кульская обл. Теплоключенка, под корой тянь-шанской ели (= Teploklyuchenka=Ak-Suu, 42.5°N 78.5°E, from pupa found under the bark of *Picea schrenkiana* subsp. *Tianschanica*), 2♂♂, 4♀♀.

Other type material. ZMUM, paratypes 1♂, 1♀, RUSSIA, the same label as the holotype.

Phaonia tenuirostris Stein, 1907: 320 (*Aricia*)
Fig. 35.

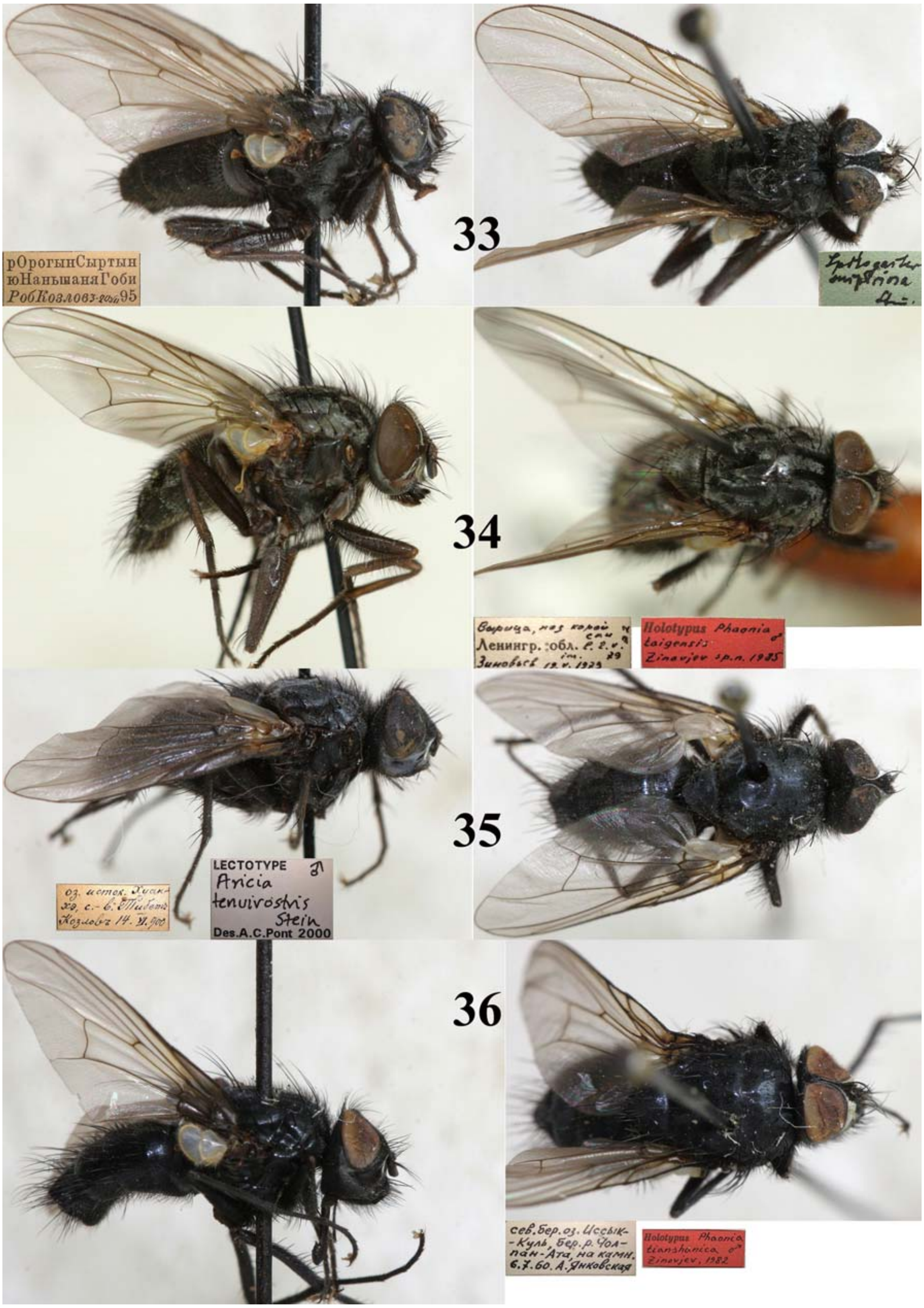
MATERIAL. **ZIN:** Lectotype, ♂: оз. исток Хуан хэ, с.-в. Тибетъ Козловъ 14.VI.900 (= CHINA, *Qinghai* prov., NE Tibet, source of Huang He R., Ngoring Lake or Gyaring Lake, 34.8°N 97.5°E, 4270 m asl, P.K. Kozlov, 14.06.1900); Lectotype ♂ Aricia tenurostris Stein Des.A.C.Pont 2000.

Paralectotypes 1♂, 6♀♀: CHINA, the same label as the lectotype.



Figs 29–32. *Phaonia* spp., ♂ holotype: 29 — *P. splendida* Hennig, 1963; 30 — *P. stackelbergi* Hennig, 1963; 31 — *P. subcandicans* Zinovjev, 1983; 32 — *P. subdecussata* Hennig, 1963.

Рис. 29–32. *Phaonia* spp., ♂ голотипы: 29 — *P. splendida* Hennig, 1963; 30 — *P. stackelbergi* Hennig, 1963; 31 — *P. subcandicans* Zinovjev, 1983; 32 — *P. subdecussata* Hennig, 1963.



Figs 33–36. *Phaonia* spp.: 33 — *P. suspiciosa* Stein, 1907, ♂ paratype; 34 — *P. taigensis* Zinovjev, 1987, ♂ holotype; 35 — *P. tenuirostris* Stein, 1907, ♂ holotype; 36 — *P. tianshanica* Zinovjev, 1983, ♂ holotype.

Рис. 33–36. *Phaonia* spp.: 33 — *P. suspiciosa* Stein, 1907, ♂ паратип; 34 — *P. taigensis* Zinovjev, 1987, ♂ голотип; 35 — *P. tenuirostris* Stein, 1907, ♂ голотип; 36 — *P. tianshanica* Zinovjev, 1983, ♂ голотип.

Other type material. ZMHU. Paralectotypes, 1♂, 3♀♀, CHINA, the same label as the lectotype [Hennig, 1963; Pont, Werner, 2006].

Phaonia tianshanica Zinovjev, 1983: 190 (*Phaonia*) Fig. 36.

MATERIAL. **ZIN:** Holotype, ♂: сев. бер. оз. Иссык-Куль, бер. р. Чолпан–Ата, на камн. 6.7.60. А. Янковская (= KYRGYZSTAN, *Issyk Kul* reg., N shore of Issyk Kul Lake, bank of Cholpon-Ata R., 42.66°N 77.08°E, on stones, A. Yankovskaya, 6.07.1960). Holotypus Phaonia tianshanica ♂ Zinovjev, 1982.

Paratypes, 10♂♂, 16♀♀. KAZAKHSTAN, Семиреченск. обл., дол. р. Коры, Шнитников (= Semirechye Oblast of Russian Empair, presently *Almaty* reg., Kora River Valley, 45.0°N 79.0°E, V. Shnitnikov), 23.07.1908, 1♀;

KYRGYZSTAN: the same label as the Holotypes, 1♂; Терскей Алатоо, Чон. Кызыл-су, Второв (=Terskey Alatau Range, Chong Kyzyl-Suu valley, H”42.22°N 78.17°E, P. Vtorov): H” 2200 m asl, 20.05.1965, 1♂; H” 2600 m asl, on faeces, 12.07.1965, 1♀; хр. Атбаши 40 км ЮВ, г. Нарын 2700–3500м, В. Зайцев (= 40 km SE of Naryn, At-Bashi Range, H”41.25°N 76.40°E, 2700–3500 m asl, V. Zaitsev), 14.07.1966, 2♀♀; ущ. Аламедин, 30 км, S Фрунзе, степь, В. Зайцев (= 30 km S of Bishkek, Alamedin Valley, 42.60°N 74.66°E, steppe, V. Zaitsev), 2.07.1966, 2♂♂; Сусамыр. дол. Кирг., 30 км W Сусамыра, В. Зайцев (= Susamyr River Valley, 30 km W of Susamyr Town, 42.21°N 73.67°E, V. Zaitsev), 29.06.1966, 1♂; у ледн. Совнаркома, ист. Нарына. Семир., Кашкаров (= Semirechye or Zhetysu, source of Naryn River, 41.77°N 77.97°E, D. Kashkarov), 23.07.1934, 2♂♂, 1♀; Иркештам, гр., с. Каш(м)гарней, 2700мт (= Erkeshtam = Irkeshtam, border (with China), 39.68°N 73.90°E, 2700 m asl, N. Olsufiev), 16.07.1935, 1♂, 1♀; ущ. р. Туюк, Киргизия, Шнитников, (= Tuyuk River Valley, V. Shnitnikov), 4.08.1930, 2♀♀; Киргизская А.С.С.Р, Каракольск. Кантон., ур. Арал-дуб, Сер. Тарб (= Karakol env., H”42.4°N 78.4°E, S. Tarbinsky), 15.06.1925, 1♀; Терскей Алатау, ю. Каракола, Кашкаров (= Terskey Alatau, S of Karakol, H”42.3°N 78.5°E, D. Kashkarov), 17–22.07.1934, 1♀; Джеты-огуз, вост., бер. Иссык-куля, М. Берг (= E shore of Issyk-Kul Lake, Jeti Oguz, 42.32°N 78.25°E), 13.06.1930, 1♀;

MONGOLIA, МОНГОЛИЯ, Гоби-Алт., аймак, 15 км ВСВ Цогта, Зайцев (= *Govi-Altai* prov., 15 km EEN of Tsogt, 45.4°N 96.8°E, V. Zaitsev), 15.07.1970, 1♀;

TAJIKISTAN: В. Памир, окр. Чечекты, Сычевская (= *Gorno-Badakhshan* reg., E Pamir, Chechekty env., 38.34°N 74.01°E, V. Sychevskaya (Porutek and Mukor River are localities near Chechekty, we can not give a more accurate definition)): Порутек, помет сурка (marmot's dung) 3800 m asl, 9.08.1965, 1♂; р. Мукор, на камнях (on stones), 4300 m asl, 1.08.1962, 1♂, 1♀; 11.08.1964, 1♀; р. Порутек , 4100 m asl, 18.08.1965, 1♀; В. Памир, с Мордж, Таджик. H”3400, Сычевская (= *Gorno-Badakhshan* reg., Mardzh, 37.70°N 72.45°E, 3400 m asl, V. Sychevskaya), 4.08.1964), 1♀.

Other type material. ZMUM: paratype 1♀, KYRGYZSTAN, Тянь-Шань, р. Куйлю, П. Второв (= Tian Shan, Kuylu R., H” 42.4°N 78.5°E, P. Vtorov), 30.06.1962.

BMNH: paratype 1♂, NEPAL, Baitadi, Tinkar Khola (29.52°N 80.49°E), J. B. Tyson, 3.07.1953, [Zinovjev, 1983].

REMARKS. Three more females from Kyrgyzstan, Terskey Alatau, S of Karakol, D. Kashkarov were marked as the paratypes, but these 3♀♀ were not mentioned in the original description.

Phaonia ussuriensis Zinovjev, 1980b: 908 (*Phaonia*) Fig. 38.

MATERIAL. **ZIN:** Holotype, ♂: Владивосток Седанка Зиновьев 17.VII.1979 Holotypus ♂ Phaonia ussuriensis Zinovjev, 1980 (= RUSSIA, *Primorsky* reg., Vladivostok, Sedanka, 43.2°N 132.0°E, A. Zinovjev 17.07.1979).

Paratypes 24♂♂, 21♀♀. RUSSIA, *Primorsky* reg.: the same label as the holotype, data: 25.08.1978, 2♀♀; 17, 19 and 25.07.1979, 7♂♂, 9♀♀; Тигровый, Партизанск. р-н., ю. Приморье Зиновьев (= Tigrovyi, 43.844°N 132.772°E, A. Zinovjev), 21–22.07.1979, 4♂♂, 3♀♀; зап. Кедровая падь южн. Приморье Нарчук кордон Геккелев ключ, (= Kedrovaya Pad Nat.Reserve, 43.1°N 131.5°E, E. Nartchuk), 6.08.1962, 1♀; Владивосток Академгородок В.Куслицкий разнотравье и кустарн. под пологом широколиствен. леса (= Vladivostok, Akademgorodok, 43.20°N 131.93°E, herbage and bushes under the broad-leaved forest canopy, V. Kuslitsky), 10–20.07.1972, 4♂♂, 2♀♀; с. Андреевка, Хасанский р-н бух. Троицы южн. Приморье В.Куслицкий долина: ива, ольха, лещина (= Khasansky distr., Troitsy Bay, Andreevka village, 42.64°N 131.13°E, valley: willow, alder, hazel V. Kuslitsky), 12–16.07.1972, 7♂♂, 2♀♀; Анисимовка (Кангауз) Шкотовск, р-н., ю. Приморье Зиновьев (= Shkotovsky dist., Anisimovka env., 43.17°N 132.79°E, A. Zinovjev), 22.07.1979, 2♂♂, 2♀♀.

Other type material. ZMUM: paratypes, 2♂♂, RUSSIA, *Primorsky* reg.: зап. Кедровая падь, Зимина (= Kedrovaya Pad Nat.Reserve, 43.1°N 131.5°E, L. Zimina), 7.07.1962, 1♂; Анисимовка (Кангауз) Шкотовск, р-н., ю. Приморье Зиновьев (= Shkotovsky dist., Anisimovka env., 43.17°N 132.79°E, A. Zinovjev), 27–28.07.1979, 1♂.

In the original description [Zinovjev, 1980b] 5 more paratypes (4♂♂, 1♀) were mentioned, probably they are in some other collection(s).

Phaonia zhelochovtsevi Zinovjev, 1980b: 905 (*Dialyta*) Fig. 40.

MATERIAL. **ZIN:** Holotype, ♂: окр. С. Яковлевки ю. Приморье Борисова 15.VI.962, Разреженный дубово–липовый лес с лещиной и леспедецей (= RUSSIA, *Primorsky* reg., Yakovlevka village env., 44.425°N 133.480°E, sparse oak-lime forest with hazel *Corylus* sp. and *Lespedeza bicolor*, K. Borisova, 15.06.1962), Holotypus Dialyta zhelochovtsevi ♂ Zinovjev, 1980.

Paratypes 1♂, 3♀♀: RUSSIA, *Primorsky* reg.: Анисимовка (Кангауз) Шкотовск, р-н., ю.Приморье Зиновьев (= Shkotovsky dist., Anisimovka env., 43.17°N 132.79°E, A. Zinovjev), 22.06.1979, 1♂; Тигровый, Партизанск. р-н., ю. Приморье Зиновьев (= Tigrovyi, 43.844°N 132.772°E, A. Zinovjev), 22.07.1979, 2♀♀; Владивосток, Седанка Зиновьев (= Vladivostok, Sedanka, 43.2°N 132.0°E, A. Zinovjev), 25.07.1979, 1♀.

Other type material. ZMUM, paratype: 1♀, RUSSIA, *Primorsky* reg., Спасск-Дальний, Желоховцев (= Spassk-Dalny, 44.6°N 132.8°E, A. Zhelochovtsev), 29.06.1961.

Phaonia zinovjevi Malianov, 1993: 419 (*Phaonia*) Fig. 39.

MATERIAL. **ZIN:** Holotype, ♂: окр. Алма-Аты Ущ.р.М.Алма-Атинка 1900, в траве Малянов 2.VII.988 (= KAZAKHSTAN, *Almaty* reg., Zailiysky Alatau Range, canyon of M. Almatinka R., 43.143°N 77.067°E, 1900 m asl, in grass, M. Malyanov, 2.07.1988), Голотип, all legs on the left side are absent.

Paratypes 1♂, 1♀: KAZAKHSTAN, *Almaty* reg.: the same label as the holotype, 1♀; окр. Тургень 60 км В Алма-Ата Городков (= Turgen env., 43.35°N 77.60°E, K. Gorodkov), 15.07.1969, 1♂.

Other type material. Institut of Zoology Academy of Sciences of Kazakhstan, Almaty, Al-Farabi str., 93: paratype, 1♂, KAZAKHSTAN, the same label as the holotype [Malyanov, 1993].

Supplement

1. Specimens marked as types, but apparently not being types.

Phaonia dorsolineata Shinonaga et Kano, 1971: 171.

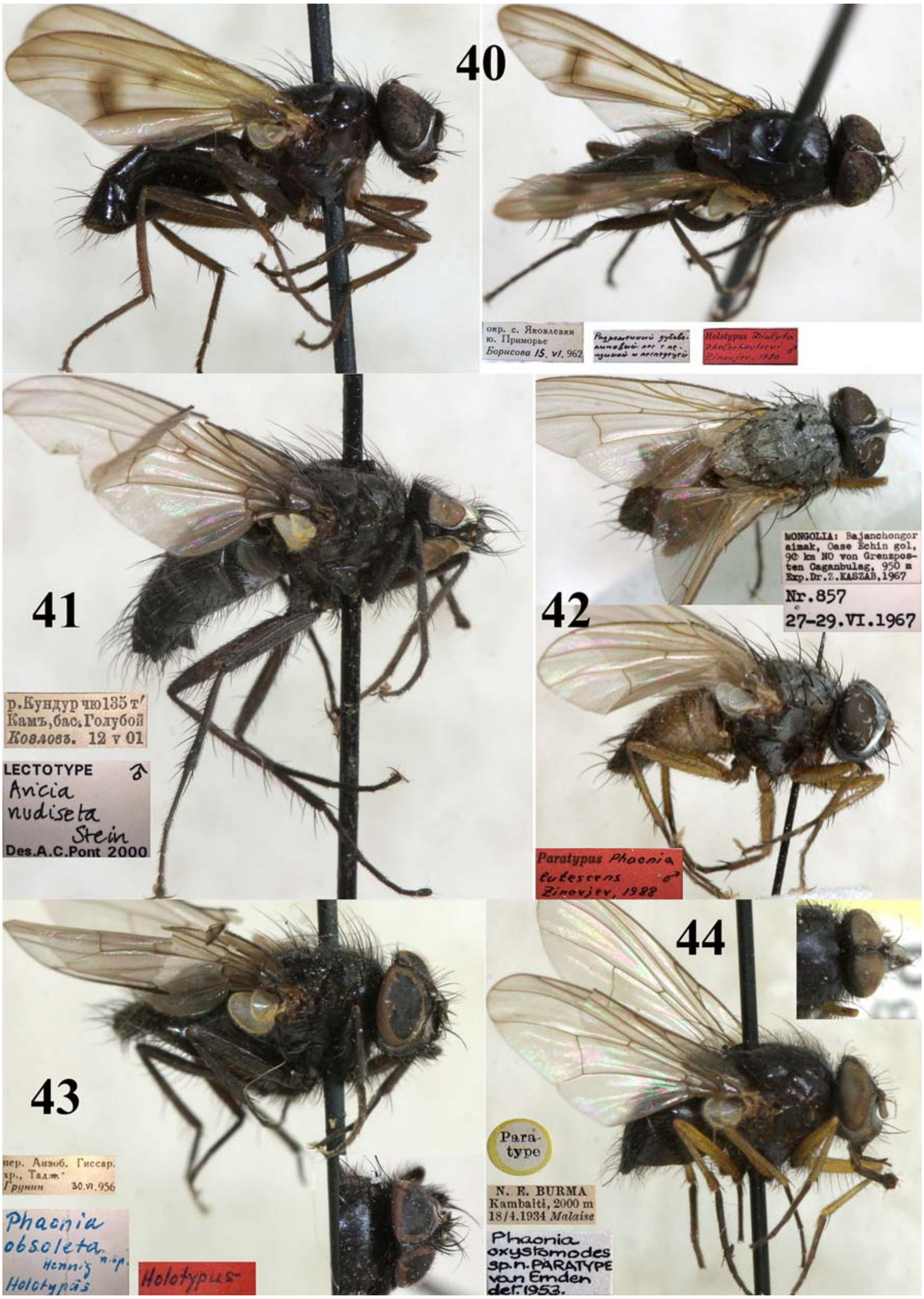
MATERIAL. **ZIN:** JAPAN: Mt. Hayachine IWATE 17–18 June 1971 S. Shinonaga Phaonia dorsolineata Shinonaga et Kano new species, 1971, 1♀; Hananoego Yakushima Is. 26–27 Jul 1974 S. Shinonaga Phaonia dorsolineata Shinonaga et Kano new species, 1971, 1♂.

REMARKS. According to the original description [Shinonaga, Kano, 1971] these specimens were collected 1 or 4 years later than the type series, so the words "new species" on the labels are an error.



Figs 37–39. *Phaonia* spp.: 37 — *P. sichotensis* Zinovjev, 1980, ♂ paratype; 38 — *P. ussuriensis* Zinovjev, 1980, ♂ holotype; 39 — *P. zinovjevi* Malianov, 1993, ♂ holotype.

Рис. 37–39. *Phaonia* spp.: 37 — *P. sichotensis* Zinovjev, 1980, ♂ голотип; 38 — *P. ussuriensis* Zinovjev, 1980, ♂ голотип; 39 — *P. zinovjevi* Malianov, 1993, ♂ голотип.



Figs 40–44. *Phaonia* spp.: 40 — *P. zhelochovtsevi* Zinovjev, 1980, ♂ holotype; 41 — *P. nudiseta* Stein, 1907, ♂ holotype; 42 — *P. lutescens* Zinovjev, 1990, ♂ paratype; 43 — *P. obsoleta* Hennig, 1963, ♂ holotype; 44 — *P. oxystomodes* Emden, 1965, ♂ paratype.

Рис. 40–44. *Phaonia* spp.: 40 — *P. zhelochovtsevi* Zinovjev, 1980, ♂ голотип; 41 — *P. nudiseta* Stein, 1907, ♂ голотип; 42 — *P. lutescens* Zinovjev, 1990, ♂ паратип; 43 — *P. obsoleta* Hennig, 1963, ♂ голотип; 44 — *P. oxystomodes* Emden, 1965, ♂ паратип.

Phaonia chalchica grisea Zinovjev, nomen nudum

MATERIAL. **ZIN:** Holotype, ♂: Карашокы бл. Бассага, Караганд. обл. вершина Грунин 17.V.957 Ph chalchica grisea subsp.n. Holotypus (= KAZAKHSTAN, *Karaganda* reg., Karashoky, 49.5°N 74.5°E, H" 700 m asl, K. Grunin), 17.05.1957).

REMARKS. This specimen was marked by Zinovjev as the holotype of subsp. nov., but actually the new subspecies was never described him afterwards.

2. Species described by A. Zinovjev which type material is not in ZIN:

Phaonia pusilla Zinovjev, 1990: 472

MATERIAL. One ZIN's ♀ from Mongolia, Uvs prov., 3 km NE somon Ondorkhangai, 49.29°N 94.89°E, 2200 m asl, Exp. Dr. Z. Kaszab, 21.06–16.07.1968 is marked as paratype by Zinovjev. But in the original description is indicated that "female unknown" [Zinovjev, 1990: 474], so this specimen could not be regarded as a paratype.

Other type material. MNM. Holotype ♂, MONGOLIA, *Tov* (Central) prov., 66 km SEE Ulan Baator (47.75°N 107.75°E), Exp. Dr. Z. Kaszab, 5.07.1963, (without mid legs). Paratypes, 3♂♂, MONGOLIA: ***Dornod*** prov., somon Khalkingol (47.63°N 118.63°E), 600 m asl, Exp. Dr. Z. Kaszab, 12.08.1965, 1♂; ***Uvs*** prov., 3 km NE somon Ondorkhangai (49.29°N 94.89°E), 2200 m asl, Exp. Dr. Z. Kaszab, 21.06–16.07.1968, 2♂♂ [Zinovjiev, 1990].

Phaonia aurata Zinovjev, 1992: 707
Phaonia bambusella Zinovjev, 1992: 700
Phaonia basisetosa Zinovjev, 1992: 709
Phaonia basisetosa subsp. *trichaeta* Zinovjev, 1992: 710
Phaonia himalaica Zinovjev, 1992: 704

In contrast to his previous habits, Zinovjev did not deposit parts of the type series of these species in ZIN collection, but returned all specimens to Natural History Museum of Denmark, University of Copenhagen, Denmark where they are presently deposited.

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